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ANNUAL REPORTS
OF
THE PRESIDENT AND THE TREASURER
OF
HARVARD COLLEGE

1899-1900



CAMBRIDGE
Published by the University
1901

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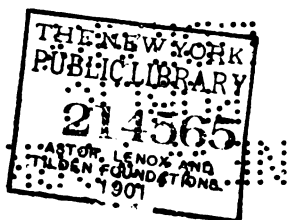
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PRESIDENT'S REPORT FOR 1899-1900.

TO THE BOARD OF OVERSEERS : —

The President of the University has the honor to submit the following report for the academic year 1899-1900, — namely, from September 28, 1899, to September 27, 1900.

Charles Franklin Dunbar, Professor of Political Economy, died on the 29th of January, 1900, in the seventieth year of his age. Professor Dunbar was the first professor to be appointed in the University for political economy exclusively. He was Dean of the College Faculty from 1876 to 1882, and Dean of the Faculty of Arts and Sciences from its creation in 1890 to 1895. As an administrative officer he manifested a remarkable sagacity, and commanded the complete respect of his associates and subordinates ; but his principal service to the University was the creation of a highly organized department of political economy. When first appointed he was the sole teacher of the subject ; at his death there were in the department three full professors, one assistant professor, and three instructors. At the beginning of his service political economy could be studied by Juniors and Seniors only, and by them but briefly ; at the end it was open to Freshmen, and could be pursued in every college year through a series of graded courses.

To the numerous discussions which took place in the College Faculty between 1871 and 1900 Professor Dunbar contributed weightily, though not copiously. He was Editor of the *Journal of Economics* published by the University from its beginning in October 1886 until 1896. He devised its methods, and watched its progress with the keenest interest. His own published writings gave authority to his teaching, and added to the influence of the University in the country at large.

A table of the schools and colleges from which young men have entered Harvard College proper during the last ten years will be found in the Appendix, pages 330-338. In 1900, 209 schools and colleges, and a few private tutors, contributed the 635 persons who entered the classes of the College taken together. As has often been said in these reports, Harvard College is not fed by a few schools of which it controls the curricula, but by a great variety of institutions scattered widely over the country, in many of which the function of preparing boys for college is only a subordinate one. Only fifteen schools (three public, eight endowed, and four private) sent more than six pupils each; and from these fifteen schools 231 persons entered the College, or somewhat more than one-third of the whole number that entered. The number of public schools which from time to time send some of their pupils to Harvard College is increasing.

In the ten years, 1876 to 1885, there were 82 such schools.

"	"	1881 to 1890,	"	96	"
"	"	1886 to 1895,	"	132	"
"	"	1891 to 1900,	"	163	"

In 1895, 55 public schools (of which 36 were Massachusetts High or Latin schools) sent pupils to the College; in 1900, 84 public schools (of which 46 were Massachusetts High or Latin schools) sent pupils to the College; of the other 38 public schools, nine were in New England, and twenty-nine outside of New England. Five years ago there were only thirteen such schools outside of New England. These are cheerful signs of a diffused improvement in secondary education, and particularly in the education given by public schools in various parts of the country. In the figures given above persons who entered the Lawrence Scientific School are not included.

The table on the next page gives the number of young men who entered Harvard College as regular students in any one of the four classes (Special Students are not included), in each of the thirty years mentioned, from public, endowed, and private schools, from private tuition, and from colleges respectively, with the total number in each year, and the percentage from public schools. This table shows that fewer candidates are

PERCENTAGE FROM PUBLIC SCHOOLS.

7

Year.	From Public Schools.	From Endowed Schools.*	From Private Schools.*	Private Pupils.*	From Colleges, including other Harvard Departments.†	Total.	Percentage from Public Schools.
1871	70	44	42	39	8	203	.3440
1872	50	66	30	30	7	183	.2732
1873	72	67	37	46	5	227	.3171
1874	54	57	25	46	18	200	.2700
1875	80	79	32	58	14	258	.3100
1876	51	75	35	49	15	225	.2267
1877	86	64	31	46	12	239	.3598
1878	80	74	36	28	14	232	.3448
1879	72	72	47	38	16	245	.2938
1880	69	67	41	42	14	223	.2961
1881	69	65	25	48	23	230	.3000
1882	82	70	51	53	25	281	.2918
1883	65	85	62	36	20	268	.2425
1884	63	75	73	37	88	286	.2208
1885	73	71	63	30	27	264	.2765
1886	96	65	70	36	25	302	.3179
1887	78	78	78	33	43	310	.2516
1888	94	77	69	31	60	331	.2840
1889	98	68	99	33	54	352	.2756
1890	95	86	82	54	85	402	.2363
1891	128	53	147	31	104	463	.2764
1892	135	109	116	37	109	506	.2667
1893	142	111	133	20	83	469	.3037
1894	126	106	114	30	94	470	.2695
1895	165	119	114	34	79	511	.3228
1896	134	123	112	33	98	500	.2680
1897	143	140	106	19	85	493	.2900
1898	134	122	106	26	73	461	.2906
1899	158	166	124	7	101	556	.2841
1900	212	178	105	31	99	625	.2948

prepared by the method of private tuition now than thirty years ago, and that during the last four years the percentage from public schools has kept up well, and compares favorably with the average percentage of the twenty-six years preceding. Considering that the number of persons who entered the four classes of Harvard College in 1900 is three times as large as it

* The discrimination between endowed schools and private schools and between schools and private tutors cannot be made perfectly accurate.

† Beginning in the year 1881, students have each year entered the regular classes of Harvard College from other departments of the University.

was in 1871, the persistence of the percentage from public schools is highly satisfactory. The largest proportional increase occurs in the number of persons admitted from other colleges and other Harvard departments; but the tendency of persons coming from other colleges to enter the Graduate School direct is reducing the number of persons of this class who are admitted to Harvard College.

A table that shows the ages at which the Freshmen entered the College in every year from 1870 to 1900 inclusive is printed in the Appendix, page 339. In this table persons who entered with advanced standing are included; but they are placed in the year in which they would have entered the College had they begun as Freshmen. The last three years of the table are, therefore, necessarily incomplete; for the persons who will hereafter enter with advanced standing are still to be incorporated into those classes.

The average age has diminished slightly of late years; but chiefly because there has been a decrease in the number of abnormally old persons admitted. Thus the Class of 1889 had in it 17 persons who were over 26 at entrance, whereas the Class of 1900 has as yet recorded only 4 persons above 26 at entrance, and the Class of 1897, whose record is complete, had in it only 8 such persons. Of late years the number of persons entering at 17 to 18, at 18 to 19, and at 19 to 20 has been almost stationary; but the proportion of persons entering at 20 to 21, 21 to 22, and 22 to 23 has distinctly declined. What is desirable is, that the proportion of persons entering between 17 and 19 should largely increase. Three-eighths of the Freshmen admitted in 1900 were 19 years of age, or more. There is no good reason why nine-tenths of all the boys who mean to go to Harvard College should not be fully prepared for admission at eighteen years of age.

The report of the Dean of the Faculty of Arts and Sciences (p. 51) records the fact that there was an increase in the body of instruction offered by that Faculty in the spring of 1900 for the year 1900-01, just as there was in each of the two years preceding. This increase was largest in the departments of

History and Government, Architecture, and Geology, although the increase is distributed among many of the departments. The largest increase in the Department of Architecture comes from the new courses in landscape architecture; and the increase in the Division of Geology is due chiefly to an enlargement of the instruction in mining and metallurgy. In regard to the increase in History and Government it may be said that this increase is made in response to a clear demand for additional instruction in those subjects. The students of to-day exhibit a strong tendency to elect instruction in history and government, economics, philosophy including sociology, and education; and this tendency corresponds with the views of their elders concerning the importance of these subjects. It is not the University which suggests these subjects to the student, it is the needs and aspirations of modern society which suggest them. Much the same may be said concerning the subjects of landscape architecture, and of mining and metallurgy. Modern society needs men highly trained in these subjects, and is prepared to reward adequately men who excel in them. It is to be observed, however, that this increase in the body of instruction offered would probably not have been made, if the Corporation had realized in the spring of 1900 the financial condition of the departments administered by the Faculty of Arts and Sciences. They did not then know that a large deficit was to occur for a second time in those departments.

The Dean makes an interesting statement (p. 93) of the successive steps by which the Faculty has gradually abolished the requirement of the study of English in the upper College classes, while making ample provision for such study in elective courses. The Dean's statement makes it clear that a large portion of the formal training in the writing of English desirable for every College graduate can now be obtained early in secondary schools; so that the amount of time which a College undergraduate has been required to give to that training can be safely reduced. It has been hoped that with the abandonment of the required English of the Sophomore, Junior, and Senior years it might be possible to reduce the heavy cost of the instruction in English Composition in the College and the Scientific School; but this hope can hardly be realized so

long as undergraduates resort in large numbers to the elective courses in English Composition. The cost of the prescribed courses has diminished ; but the cost of the elective courses has increased.

In the President's Report for 1895-96, and again in the Report for 1898-99, attention was called to the increasing authority of the sections of the Faculty of Arts and Sciences called Divisions and Departments. That authority has a firm foundation in the fact that all members of a single Department have knowledge of the subjects of instruction within that Department and of the recent graduates who are competent to aid the Department as Instructors or Assistants. All members of a single Department are also apt to know something of the qualifications of scholars in that Department who are teaching in other universities ; hence the advice of a Department concerning new appointments is ordinarily well-grounded on a knowledge of the personal qualifications of the candidates.

Two difficulties in departmental administration seem to be inevitable : First, the action of a Department is liable to be too greatly influenced by the wishes of its senior members ; and secondly, every Department inevitably urges on the Faculty and the Corporation, in season and out of season, good reasons why it should be developed, and its appropriation for salaries and equipment increased. To every active Department in a university its own interests appear supreme. A departmental administration, therefore, needs an alert supervising authority ; else it will draw the University into unreasonable or untimely expenditures.

Many persons suppose that a College class is a tolerably stable body of persons who enter College together and remain together for four years. The statistics annually published by the Dean of Harvard College show that this is by no means the case (see p. 100). Each successive College class suffers numerous losses, and makes numerous gains ; and of late years the Senior Class is much smaller than the number of persons who entered College three years before would have indicated. Many persons drop out of their class on the way through

College; and now-a-days many complete their studies for the degree of Bachelor of Arts in three years.

The Dean points out that it is too early as yet to determine whether the new method of admission to Harvard College is more difficult than the old, or less difficult. The chances seem to be, however, that increase of difficulty in some directions is counterbalanced by diminution in others.

The Dean of Harvard College and the Dean of the Lawrence Scientific School, writing without any comparison of views, both complain of the fact that students are inclined to neglect their duties because of small ailments which in after life would never be allowed to interfere with their daily work (pp. 112, 128.) This tendency should be resisted by all the administrative officers and by public opinion among teachers and students alike; for it is a bad preparation for the strenuous work of after life.

The most interesting part of the report of the Dean of Harvard College relates to an investigation (p. 116) he has caused to be made into the working of the elective system since the studies of the Freshman year became elective, — that is, since 1884. This investigation is a continuation of an inquiry, the results of which were published in the President's Report for the year 1884–85, — an inquiry made before the studies of the Freshman year became elective. It was in 1884 that Latin, Greek, and mathematics ceased to be prescribed subjects in Harvard College; and at that time also the practice of carrying a whole class through the same studies in the Freshman year was abandoned. Freshmen, however, have at no time been allowed to choose from the whole list of elective studies; and it is only within recent years that the elementary courses in philosophy and economics have been open to them. The method of the Dean's inquiry is necessarily statistical, and the period being only fifteen years in length, the statistical results are surprisingly irregular from year to year, or, in other words, they seldom exhibit any well-defined and persistent tendency. Nevertheless the Dean's discussion of the statistics is both interesting and instructive; and the conclusions at which he arrives deserve the careful attention of all persons who feel doubts concerning the working of a broad

elective system. Of special significance are the remarks of the Dean on "soft" courses and "snap-hunting"; for these words express the commonest objections to the elective system.

The statistical tables relate to the following points in the working of an elective system: what percentage of each class choose little or nothing but elementary work throughout their College course; what percentage drop the Classics immediately on entering College, or at the beginning of the Sophomore year; what percentage drop mathematics immediately on entering College; what percentage begin to specialize not later than the Sophomore year, — that is, take at least half their work in one department; what percentage begin to specialize in the Junior year, but specialize moderately; what percentage do considerable amounts of rationally connected work without specializing in any strict sense of the word. Many other categories might have been devised; but these are all interesting and instructive percentages. The Dean adds a table to show what percentage of the students who graduated with distinction each category contains, and this table will be found to be one of the most interesting of the series. It proves conclusively that many of the strongest students of the College abandon the Classics and mathematics for studies which seem to them more likely to be serviceable in the actual activities of modern society. These tables, as the Dean points out, do not furnish material for an exhaustive study of the elective system in Harvard College; but they support the belief that as a body the students use the system with reasonable intelligence. They confirm the results of previous inquiries in several important respects; — thus, they prove that under a wide elective system there will be no extreme specialization, and there will be a fair amount of judicious choice of correlated subjects. The general conclusion is that a boy of eighteen who has had a good training up to that age will ordinarily use the elective system wisely, and that the boy who has had an imperfect or poor training up to eighteen years is more likely to accomplish something worth while under an elective system than under any other. The group system is the right one for professional schools in which the future career of every student is assumed to be determined.

When a youth has made up his mind to be a minister, a lawyer, or a mechanical engineer, there are, of course, certain studies to which he should by preference devote himself. A student in Arts and Sciences, if he knows what his future profession is to be, may wisely choose his studies with reference to that profession; but to that end free election is what he needs and not inflexible groups. A prudent student in Arts and Sciences who does not know what his profession is to be will choose his studies from among those which give him pleasure and in which he has capacity to excel; because it should be somewhere in these fields that he should find his future calling. For such young persons Shakspeare's advice is the wisest possible, — "No profit grows where is no pleasure ta'en : — in brief, Sir, study what you most affect."

Near the close of the year under review the Corporation decided to proceed with several buildings which had been awaiting a fall of prices in building materials. One of these is a large structure intended chiefly for the Department of Engineering in the Lawrence Scientific School. The completion of this building in the summer of 1901 will bring great relief to this School, which has long been much hindered by the lack of suitable accommodations for that important department. The building is to be paid for from the bequest of Henry Lillie Pierce, and will bear his name. It will cost more than the \$175,000 which the Corporation originally set aside from that great bequest for the construction of this building; but some interest has accumulated upon the sum originally appropriated, and the urgent need of the building induced the Corporation to begin its construction. There will be some rooms in the building available for other departments, and the rooms now occupied by the Engineering Department will become available for other uses.

The construction of the new building for architecture was begun near the end of last June; and it is expected that this spacious and perfectly constructed building will be ready for use in the summer of 1901.

Plans were also made ready during the last summer for an addition to the Rotch Laboratory, an addition which is to

receive the various furnaces used in illustration of assaying and other metallurgical processes.

These three additional buildings will greatly improve the accommodations of the Scientific School; they will, indeed, give three departments of the School admirable facilities.

During the year plans were completed for offering a four years' course in landscape architecture as one of the group courses in the Lawrence Scientific School. Far the greater part of the instruction needed for this course was already given in the School, and it was only necessary to add graded courses in landscape design. These are to be given by Mr. Frederick Law Olmsted, Jr., with the assistance of Mr. Arthur A. Shurtleff. It is probable that some of these courses in landscape design will be attractive to students of Harvard College and the Graduate School who are not looking forward to following that profession; for they are emphatically "culture" courses, since they open the eyes to natural beauty and the mind to the principles of harmony, contrast, and proportion in scenery, whether natural or artificial.

The number of students in the School was fully maintained at the examinations of 1900, in spite of a distinct increase in the requirements for admission. This increase is to be progressive until it shall be completed in 1903. The Dean calls attention to the fact that candidates, by their own choice, or that of their teachers at school, are presenting Latin and Greek for admission rather than subjects in natural science. This is an inevitable tendency; for many schools find it easier to provide instruction in the languages than in the sciences.

Several observers of the new-comers to the Scientific School who have compared them with the new-comers to the College have formed the opinion that the average physique of the young men who enter the Scientific School is superior to that of those who enter the College. This observation is borne out by the fact that the Scientific School contributes a larger proportion of men to the various athletic teams and crews than the College. The cause of the phenomenon is not easy to discern. A corroborative fact appears in the absence records of the two departments: the demands made by the Scientific School upon its students under the group system are more severe than the

demands made by Harvard College on its students under the free elective system ; but there is no more sickness, or tendency to break down, observable among the students of the School than among the students of the College.

The School is becoming thoroughly well organized. The numbers in the fourth year and the third year are attaining a proper proportion to those in the first year and the second year, and the number of applicants for admission is rising. The engineering courses in the School quite hold their own ; mining and metallurgy make a growing group ; and geology continues to be the resort of a moderate number of strong students. As the requirements for admission rise towards the level of the requirements for admission to Harvard College, the resort to the course in general science ought to diminish ; for those young men belong rather in the College than in the Scientific School. When the College is as easily accessible to them as the Scientific School, they will probably resort to the College.

The Graduate School is now as large as Harvard College was forty-five years ago, when the present President of the University was first a member of the College Faculty. The Dean of the School every year presents in statistical tables a complete picture of the School, and discusses the facts from several different points of view. It is in the highest degree desirable that the graduates of the University in all departments should familiarize themselves with these facts, and gain a clear idea of the contribution which this department of the University is making to the education of the country. This School is wholly composed of advanced students, and is, therefore, a School which sends out into the work of the world highly trained men who should have learned to use all the appropriate means of research in their several subjects. A large proportion of those who take degrees in this School become teachers in universities or secondary schools ; and each one of these men becomes a centre of knowledge and influence in the place where he establishes himself. As a rule they are more than specialists — they are men of general cultivation besides being specialists. In the main this is a School for the humanities, — that is, for the languages and literatures, ancient and modern,

and for the historical, political, and philosophical sciences. Only about one-fourth of the students devote themselves to the mathematical, physical, and natural sciences taken together. The School is recruited from a large number of colleges and universities all over the country, and its graduates often return to the places whence they came to do there the work of their lives. Moreover, many members of the School have previously studied in the Graduate Schools of other universities (see the Dean's report, p. 130).

The School includes a considerable group of men who are really supporting themselves, either wholly or in part. Such for instance are the men who, having already attained success as teachers in schools or colleges, get leave of absence from their posts in order that they may enjoy a year or two of advanced study in their several special departments. In 1899-1900 there were in the School five ordained clergymen in charge of parishes, and eighteen teachers in neighboring colleges, professional schools, or secondary schools. There were also sixty-three young men who, while still members of the Graduate School, were serving the University as instructors, teaching fellows, or assistants. These facts explain in part the high average age of the students. There are always many men in the School who are already experts in their professions. About one-third of the members in 1899-1900 held instructorships, assistantships, fellowships with stipends, or scholarships. The other two-thirds had no such aids, or means of support.

It is obvious that this School, and every similar school, is rendering important service in uplifting and unifying American education, — and more than this, that it is contributing effectively to unite the different parts of the country in the bonds of common scholarship, mutual good understanding, and similar ideals.

The Divinity School provided for a second time a summer school in theology. It was held from July 5th to July 21st, and was attended by fifty-four students, of whom two were women. All but two of the students were ministers, and they were connected with the following denominations, — Orthodox

Congregational seventeen, Universalist fourteen, Baptist six, Unitarian six, Disciples three, Episcopal three, Methodist three. The subjects of instruction were The New Testament, comparative religion, and homiletics. The instructors were taken from several different denominations.

The attendance in 1900 was hardly more than half as large as the attendance in 1899 at the first summer school in theology, possibly because there was no course in theology, a subject which ought perhaps to be included in the programme every year. The sociological side of a minister's work has not yet been treated in this summer school.

It is plain from the list of regular courses offered by the School (p. 163) that numerous courses are offered which are chosen by a small number of students only, or are not chosen at all. This is particularly the case with the New Testament courses. It also appears that Divinity School courses are chosen by College students much more than College courses by Divinity students.

On account of the lamented death of Dean Everett on the 16th of October, the Secretary of the Faculty presents the report of the Divinity School for the year 1899-1900 (p. 162).

The serious questions about the Law School arise from its prosperity and success. It has more than four times the number of students it had fifteen years ago; and its Library is growing, and threatens to continue to grow, at the rate of more than 6,000 volumes a year. An immediate enlargement of the building is imperatively demanded; and in planning that enlargement it seems to be necessary to look forward to a Law Library of more than 100,000 volumes within ten years. Financially, the School is able to provide both the building and the books; but it would be really formidable to imagine the future size and costliness of this department of the University, if it were reasonable to suppose that its recent rate of increase would be maintained.

At the close of the academic year under review Professor Langdell asked that he be permitted to retire. The Dean of the School (p. 172) describes in fitting terms the unique services which Professor Langdell has rendered to the Harvard

Law School and to legal education. The Corporation were glad to recognize these services by arranging for him an exceptional retiring allowance, and inviting him to continue to avail himself of all the facilities in Austin Hall which as Professor and Dean he has of late years enjoyed.

On the 4th of November, 1899, the Medical Faculty by vote advised the Corporation and Board of Overseers to consolidate the Faculties then known as the Medical, Dental, and Veterinary Faculties, and to entrust to this new Faculty—to be known as the Faculty of Medicine—the administration of the existing degrees of M.D., D.M.D., and M.D.V., and of a higher degree in comparative medicine. They further advised that an administrative board be appointed for each of the three schools; that the Dean of the new Faculty be the Dean of the Medical School; and that at the beginning full professors only be brought from the Dental and Veterinary Faculties into the consolidated Faculty; but that the administrative boards of the three schools might contain instructors or lecturers not members of the new Faculty. In these recommendations, the Medical Faculty copied the organization of the Faculty of Arts and Sciences at Cambridge,—a Faculty which administers Harvard College, the Lawrence Scientific School, and the Graduate School,—that organization having worked well for the direction of a large body of students and for the arrangement of the numerous courses of instruction brought together under the direction of the Faculty of Arts and Sciences. The President and Fellows and the Board of Overseers made the necessary amendments in the statutes of the University, and the new Faculty and new boards were promptly organized, and began the discharge of their several functions in December.

The attention of the Overseers is invited to the first report of the Dean of the Faculty of Medicine (p. 173). The consolidation augurs well for the future of medical instruction at the University. It will facilitate the development of comparative pathology and comparative theory and practice, and will broaden the teaching of physiology and histology. It is significant that the Medical Faculty in its first vote suggested the creation of a higher degree in comparative medicine.

In 1899-1900 some important changes were carried into effect in the plan of instruction for the first and second years of the Medical School proper. The chief characteristics of these changes were, first, the condensation of the instruction in each of the principal subjects into half-year periods, the number of hours per week given to each subject being much increased; secondly, the division of the classes into a large number of small sections so that the instructor should always be at close quarters with his students, and thus increase the amount of personal supervision of each one; and thirdly, the combining of practical with written examinations. Thus the instruction in physiology was given wholly during the second half of the first year. The early morning hours of each day were devoted to laboratory work. These exercises were usually followed by a conference, and the last hour of the forenoon was devoted to a lecture which as far as possible treated the same subject which had occupied the students' attention in the laboratory during the morning. Every morning of the week was used in this manner. Analogous methods were followed in anatomy, histology, embryology, and physiological chemistry, subjects of the first year, and in pathology and bacteriology, surgical pathology, clinical chemistry, and therapeutics, subjects of the second year.

It is too early to speak with perfect confidence of the ultimate results of the new method; but the instructors generally think the immediate results favorable. In clinical chemistry, however, the new method seemed to be comparatively unsuccessful, partly, it is supposed, because many other branches claim the attention of the student of the second year in the second half of that year. The experiment is of the highest interest, because this method would be applicable in many other departments of the University. Under the new system the sequence of studies is very much better than it was under the old. A committee of the Faculty has for years been considering the re-arrangement of the studies of the third and fourth years, but no re-adjustment has as yet been attempted. In these years, however, a more direct and personal supervision of the student has already been adopted.

The Medical School has a larger proportion of teachers to students than any other department in the University except the Divinity School. The reason is that every individual medical student must be personally instructed by a skilful person in the use of his eyes, ears, and fingers in a great variety of operations which require much knowledge and highly trained senses. It is obvious that such instruction must be very costly. The standard of this individual instruction in the Medical School has risen rapidly in late years, with the result that the average medical student is much better trained than he used to be.

The consolidation of the three Faculties of Medicine, Dental Medicine, and Veterinary Medicine into one body, gave great satisfaction to the Dental Faculty; for it will undoubtedly add to the dignity and prestige of that School. The finances of the Dental School have been for some years in a sound condition. In 1899-1900 it had a surplus of \$4,885.70, and its accumulated earnings amounted to \$33,283.06. It possesses a total endowment of \$76,603.20. This satisfactory pecuniary result has not been obtained by any lowering of the standards of the School; on the contrary, the instruction within the School has been steadily improved, and the admission examination has been conducted with more and more exactness. The School is, however, only a tenant at will in the North Grove Street Building, which belonged to the Medical School but has lately been sold to the Massachusetts General Hospital. It may at any time be in urgent need of a new building, which must inevitably cost much more than the \$51,000 already in hand applicable to that purpose.

An inspection of the table of work done in the School (p. 199) will satisfy anyone that the range of practice which a skilful dentist may expect to have, has considerably increased of late years. The professors of the operative department were called upon to treat necrosis, abscess, antrum disease, cleft-palate and hare-lip; and in the mechanical department there were forty-six cases of fractured jaw which required splints, and twenty-three cases needing appliances for cleft-palate. During the year over six thousand patients were treated in the Infirmary for diseases of the teeth.

Seven candidates for the degree of Doctor of Veterinary Medicine received that degree in June, 1900, two of them taking the degree *cum laude*. Since the establishment of this department of the University in 1882 one hundred and nineteen persons have taken this degree.

The course of instruction given in the Veterinary School during 1899-1900 was far the best ever provided by the School, being at once more comprehensive and more thorough. The number of students, however, did not increase; and it has diminished at the opening of the current year. The number of cases treated at the Veterinary Hospital was decidedly larger during the year under review than during the preceding year, and especially the surgical operations were much more numerous.

The financial result of the year for the Veterinary School and Hospital was again extremely discouraging, the deficit for the year being \$4,206.96 — only once before has the deficit been larger — and this deficit has to be paid out of the general treasury of the University. The School and the Hospital have now been in existence eighteen years, and in all that time no endowment has been provided for the Department. Unless endowment is speedily provided, the Corporation will be compelled to suspend the conferring of the degree of Veterinary Medicine, and to discontinue the Veterinary Hospital and the Free Clinic. The threatened arrest of this Department is all the more grievous, because the instruction given in the School has constantly improved, and the standards of admission and graduation have been steadily raised. The first year Veterinary Students of 1899-1900 shared the benefits of the new form of instruction in the Medical School, and worked with enthusiasm and success in company with the Medical Students. It is also to be said for the School that, since its creation eighteen years ago, all veterinary instruction in the United States has risen in character, and that this School has distinctly contributed to this result. The discontinuance of the Veterinary Hospital and the Free Clinic would be a distinct loss to the community. It seems to have been demonstrated beyond all question that it is impossible to maintain a proper Veterinary School and Hospital without endowment.

Such an endowment the Committee appointed by the Board of Overseers to visit the School have exerted themselves strenuously to obtain; but their efforts have not been rewarded with success. Even the Free Clinic has but a declining support, the contributions to it having been \$938 in 1896-97 and only \$467 in 1899-1900. The Hospital might support itself; but the main object of the University in maintaining the Hospital is to use it as a means of instruction; and the School cannot maintain itself, nor, indeed, approach self-support.

The number of students at the Bussey Institution has increased somewhat, though it is still small (29 in 1899-1900). The increasing interest in the subject of landscape architecture has brought some students to the Bussey Institution; for there instruction can be obtained in agricultural chemistry, horticulture, and the values of trees, shrubs, and herbaceous plants for ornamental purposes. Students interested in the cultivation of trees and shrubs can there see them grown in great variety in the Arnold Arboretum.

The report of the Librarian (p. 211) exhibits a state of prosperity in respect to gifts and accessions by purchase, and in respect to the use made of the 45,000 volumes which are directly accessible to members of the University, without any formality, in Gore Hall, Harvard Hall, the Warren House, and the laboratory and class-room libraries. This considerable number of freely accessible volumes probably meets the wants of the great majority of students; for the number of students who take books from the Library is not increasing in proportion to the total increase of the number of students. The main collection in Gore Hall, with all it costs each year, would not be maintained for the benefit of the great mass of the students. It is maintained in the interest of the teachers and the advanced students, and is for them an essential University provision—indeed the most essential.

Now, the building in which this collection is stored has long ceased to meet the wants of the teachers and the advanced students, and it has long ceased to be a convenient workshop for the library staff. Every year, therefore, the Librarian

has to give an account of the embarrassments under which the proper work of the Library is done. The work is not only impeded,—its cost is increased with no compensatory advantage. Although the Corporation have done their best to provide—largely from unrestricted funds—new facilities in Gore Hall, and to improve the ventilation and the lighting of the building, the improvements have soon become inadequate, and the old difficulties resulting from lack of space recur. It would be for the interest of the University that the annual expenditure at the Library should be liberal; but it is restricted. It would be for the interest of the University that the present building should at once be doubled in size; but the Corporation have no means of accomplishing that object. They have lately (1898) allotted \$100,000 of the unrestricted bequest of Henry Lillie Pierce to the Library, and they are about to devote the Henry T. Morgan Fund of \$81,950.54—another unrestricted fund—to the same establishment; but still the Corporation remain unable to provide an adequate building, and to make an adequate annual expenditure for the Library.

The accessions by gifts and purchases mount; and as yet no satisfactory method has been invented for stowing away compactly those portions of the library which have become inactive. With the modern multiplication of books it seems as if some way of separating the active from the inactive books, and then storing the inactive in a much more compact manner than any now in use, must of necessity be devised.

The Gray Herbarium continues to be the resort of professional botanists engaged in critical examinations of parts of the American flora. The specialists who visited the Herbarium during the year under review were interested in the flora of the Northwestern States, of Yucatan and the West Indies, of Patagonia, of Mexico, and of New England. One gentleman came to study the less known American grasses, and another the tropical ferns. Many amateurs avail themselves of the facilities of the Herbarium for the critical identification of plants.

The Herbarium was enriched by gifts and exchanges of plants from all parts of the world. Among them are rare

and new species. Collections were acquired by purchase from Costa Rica, Porto Rico, Southern Missouri, Texas, Southern Colorado and New Mexico, the Yellowstone Park, Labrador, and Florida. The total number of specimens of plants received during the year was 13,827. 14,497 sheets of mounted specimens were added to the Herbarium during the year, being the largest recorded annual increment.

The Herbarium in spite of the recent moderate increase of its endowment, still needs annual contributions from its friends. One hundred and sixty persons responded last year to a request for \$10, as an annual subscription. Doctor Gray's copyrights still yield a substantial sum (\$1,423.95 in 1899-1900).

The Herbarium is again under great obligations to the Visiting Committee appointed by the Board of Overseers.

In the absence of Professor Goodale, Mr. Oakes Ames, Assistant Director of the Botanic Garden, presents the Report on that establishment (p. 242). The Garden has performed better than ever before its important function of providing material for numerous classes in botany in the University itself, in Radcliffe College, and in several public and private schools. The construction of a series of pits and frames has made this task materially easier. The laboratories in the new range of greenhouses—a very valuable anonymous gift of the year 1898—are becoming more and more useful to the advanced students in botany.

The City of Boston has finished the work of construction in the Arnold Arboretum which it began in the year 1883. The City has built three and a half miles of Telford and macadamized roadway, five and seven-tenths miles of gravel walks, solid stone walls on highway boundaries wherever such walls did not previously exist, seven entrances to the Arboretum with handsome iron gates, and has made all slopes or other changes of surface which the construction of the roads and walks made necessary. It has also bought, and turned over to the University for the use of the Arboretum, land to the value of \$79,315.85. The total cost of the constructions paid for by the City has been \$371,768.82. Moreover, the

City pays for maintaining the drives and walks, and for police protection; and this payment amounted in 1899-1900 to \$8,500. The contribution of the City of Boston to this admirable collection of all the trees, shrubs and herbaceous plants which can be grown in the open air in the climate of Boston has, therefore, been large. The University has contributed about 200 acres of land; but it is the scientific direction of the Arboretum by the University which has given to the collection its most characteristic value.

The endowment of the Arboretum yields only about \$7,000 a year; but gifts have been received since 1877 to the amount of \$188,400, all of which have been spent, or will be spent during the next year or two, in the development of the Arboretum as a collection of living specimens.

As was said in the last Report, the collections are already a source of great pleasure to the public, and of valuable instruction for a few students; and every year adds to their completeness and beauty. The question remains, however, how the University is to be provided with the means of making the Arnold Arboretum an object lesson in all that relates to horticulture, arboriculture, and landscape gardening in New England. To accomplish that object a far larger endowment than any which the Arboretum now possesses will be necessary. It is obvious that, if adequate salaries were now paid to the Director and his assistants, the whole income of the endowment of the Arboretum would be exhausted by those payments alone. From the beginning the salary of the present Director has been little more than nominal. It is for the public to decide how an adequate establishment is to be maintained on these beautiful grounds where so excellent a beginning has already been made. The State, or the City of Boston, might do it; or, it might be done by a great endowment provided by public-spirited individuals.

The chemical laboratories in Boylston Hall are full to overflowing. Since 1894 nearly two hundred desks have been added to the former working places; but the increase in the number of students has kept pace with these additions to the accommodations. When the laboratory opened for the cur-

rent year, forty men had to wait for desks. On the first of November twenty-one men were still waiting. A few more advanced students might still be received; but the elementary classes can no longer be accommodated, and the available space in Boylston Hall is exhausted. Since certain elementary courses in chemistry are required of numerous students in the Lawrence Scientific School, it is very embarrassing not to be able to provide desks for all such students.

Evidently some steps should be taken at once to give the Chemical Department additional rooms; but, on the one hand, Boylston Hall is a very difficult building to enlarge, and on the other, it will not be economical to divide between two buildings the teaching force and the equipment of the Department.

The activity of the laboratory in scientific research was fully maintained during the year.

The neglect of the subject of physics by the students of the College and of the Graduate School still continues, and is one of the most curious phenomena in the University of to-day. In 1899-1900, 309 choices were made of the courses in physics intended for undergraduates; but these 309 selections include 148 made by scientific students, of whom elementary courses in physics are required in certain of the four-year groups of studies. Subtracting these 148 selections, there remain 161 choices of the elementary courses in physics made by the 2,228 members of Harvard College and the Graduate School in that year. Fifty choices were made of the courses intended for graduates and undergraduates, of which ten were by scientific students; and eleven choices were made of the courses intended for graduates. These numbers would be much reduced if the individuals choosing, and not the choices, were counted. In this respect, there is a great contrast between the department of physics and the department of chemistry, the resort to the chemical courses being much larger. The advanced courses in physics require a good knowledge of mathematics, and this requirement may restrict the numbers choosing them; but the elementary courses do not require any advanced mathematics. The applications of physics in modern industries are certainly as extensive as the applications of

chemistry, and the subject is even more many-sided than chemistry. There is, as has been several times pointed out in these reports, a strong demand for competent teachers of physics, as well as for engineers who have received thorough training in heat, light, and electricity. This limited resort to the courses in physics is not at all peculiar to Harvard University; it seems to be a widespread phenomenon. There are some indications that the number of students attending these courses is gradually increasing; but that increase ought to be large and rapid.

The psychological laboratory furnished the demonstrations given in Professor Münsterberg's elementary course in psychology, a course chosen by three hundred and forty-six students, and also the experiments in Doctor MacDougall's course in experimental psychology; but its chief work was, as usual, original research carried on by advanced students and the instructors. Some of the subjects of investigation were complicated color illusions, the difference between memory for words, for perceived objects, and for activities, the relations between memory and attention, some sub-conscious motives of judgment, the relations of rhythm and rhyme, symmetry in artistic composition, and the mutual interference of several coinciding volitional impulses. Some work was also done in animal psychology, a new department of the laboratory which was established in 1898-1899. Two of the subjects studied were the symptoms of memory in the newt and the training of the cray-fish in new habits.

The number of students prepared to do original work in investigation is increasing. As the psychological seminary is also increasing, the congestion in the laboratory becomes more and more troublesome. The Department of Philosophy needs very much a new building with ample room for laboratories, seminaries, and library, and as remote as possible from the noises of the city.

The report of the Director of the Observatory contains the usual account of the work accomplished with all the principal instruments, of the Henry Draper Memorial work, of the

Boyden Department, of the Blue Hill Observatory, and of the miscellaneous activities of the establishment; but it opens with a statement by the Director to which the attention of the Overseers and the public should be especially invited. This statement points out the inadequacy of the buildings in Cambridge and of the publication funds, and demonstrates the wastefulness of long delays in publication. There are many researches, well advanced but not yet finished, which could be issued promptly with a moderate expenditure for additional computers; and these researches, if completed, would probably fill fourteen volumes of the *Annals*, or one-third as many as have been published in the last fifty years. The material for as many volumes more is in an advanced state of preparation, but still requires much labor.

The Director also states that one of the greatest needs of astronomy is a large telescope mounted in the Southern Hemisphere. He concludes that half a million dollars are required to enable the Observatory to maintain its place among the great observatories of the world. Considering the large expenditures which have lately been made in the United States on new observatories, this estimate seems a reasonable one.

Substantial additions were made during the year to the collections of the Museum of Comparative Zoölogy (p. 273), one of the most important being fifteen hundred skins and ten thousand skulls of North American mammals. Though nominally a purchase, this collection was in great part a gift from Messrs. Edward and Outram Bangs of Boston. The publications of the Museum, a list of which will be found in the Appendix (p. 340), were unusually numerous. The principal event in the history of the Museum was the gift from Mr. Alexander Agassiz, Mr. and Mrs. Quincy A. Shaw, and Mrs. Henry L. Higginson of \$100,000, to erect the southwest corner-piece of the University Museum. This new structure will complete the Oxford Street façade of the Museum. It is to be used by the Departments of Geology and Geography in connection with the Museum of Comparative Zoölogy. When the new laboratories and lecture-rooms are ready, the spaces now occupied by the Departments of Geology and Geography

will be assigned to the Departments of Zoölogy and Palaeontology, greatly increasing the accommodations of those two Departments. The Museum will then contain liberal provision for the laboratories of zoölogy, geology and geography, botany, and mineralogy and petrography, and these laboratories will be in convenient proximity to the great collections in these subjects. The building will also contain adequate lecture-rooms for all these departments. The Museum is therefore much more than a collection building; it is in a large measure a building for teaching and research. The Assistant in Charge gives an interesting account (p. 276) of the cruise of the "Albatross" in the tropical Pacific.

In this Report will be found, for the first time, reports from the Laboratory of Zoölogy (p. 278), and from the Department of Geology and Geography (p. 286); and by exception these reports cover two years, because the report of the Museum of Comparative Zoölogy for 1898-99 did not contain, as usual, reports from the Departments of Zoölogy and Geology.

The Department of Geology and Geography was greatly helped by the Committee appointed by the Board of Overseers to visit the Department. These gentlemen manifested great interest in the work of the Department, and procured five hundred dollars to be spent in improving the apparatus for teaching.

The pressing need of the Peabody Museum of American Archaeology and Ethnology is the extension of the building 100 feet to the new southwest corner-piece of the Museum quadrangle. This extension will complete the great structure planned by Louis Agassiz more than forty years ago, and will give the much needed space for the proper exhibition of the invaluable Peabody collections. There is in hand for building purposes the sum of \$28,355.56, being the Peabody Building Fund mentioned in the Treasurer's Statement (p. 52); but this sum is manifestly insufficient to erect a structure 100 feet long of a design consistent with that of the existing Museum.

Much of the material belonging to the Peabody Museum could not now be obtained at any price. Much of it was collected from American Indian tribes, and from foreign lands, before commerce with so-called civilized nations changed the customs and arts of the native races. The ethnological collections formed by several early societies in this neighborhood have gradually been secured by the Peabody Museum, — as, for instance, the collections of the Boston Marine Society, the Boston Athenaeum, The Massachusetts Historical Society, the Boston Society of Natural History, and the American Antiquarian Society of Worcester, and last of all the rich collection made many years ago for the Boston Museum. Of late years Mr. Alexander Agassiz has repeatedly contributed important collections made by him and his assistants in remote or comparatively inaccessible regions. These treasures are actually in the keeping of the University; but many of them cannot be properly exhibited or used in research, because the present building is entirely inadequate.

The contributions of money from Mr. Charles P. Bowditch, Mr. Stephen Salisbury, and a few other friends have enabled the Museum to prosecute the explorations in Central America. Mr. Bowditch has also given the Museum a model of the ruins at Copan, made to scale by Mr. C. C. Willoughby from plans, photographs, and drawings made by the several expeditions to that site. This very instructive model has been executed with much precision. It is intended to prepare similar models of some of the great earth-works of the Ohio Valley, and also of typical mound structures. The necessary data for these models were obtained several years ago during the Director's explorations in Ohio.

Miss Fletcher, the holder of the Thaw Fellowship, has continued her researches relating to Indian ceremonies and rituals. She is ready to publish the Omaha ceremonial rituals on which she has spent years of labor.

The Director visited New Mexico during the summer of 1900, and made further study of many ruins of large pueblos and small isolated groups of stone houses with special reference to the antiquity of the different classes of structures in the cañons and on the high mesas.

The fee of the Serpent Mound Park has been transferred by the President and Fellows of Harvard College to the Ohio State Historical and Archaeological Society, on conditions which provide for the perpetual care of the Serpent Mound Park as a free public park. The Museum acquired the Serpent Mound thirteen years ago, and has since secured an Ohio law providing for the exemption from taxation of ancient monuments and the adjacent land. This action of the Museum has led to the permanent protection of other remarkable works.

Both in the year under review and in the current year, the instruction offered by the Museum has been enriched by a half-course on primitive religions in the second half of the year. Roland B. Dixon, A.M. Harv., gave this course last spring; and Dr. James Haughton Woods is to give it during the second half of the current year.

The most valuable single gift received by the Museum during the year is the large ethnological collection from the South Sea Islands made by Mr. Agassiz and Dr. W. McM. Woodworth while on the expedition of the U. S. Fish Commission Steamship "Albatross" in 1899-1900. The specimens comprise complete illustrations of the customs, implements, and costumes of the natives of the Fiji, Society, Savage, Cook, Ellice, Marshall, Gilbert, and Caroline islands.

Last summer work was begun on the building for the Semitic Museum, Mr. Jacob H. Schiff having generously provided \$13,500, in addition to his original gift of \$50,000, in order that the building might be erected at once. It had been intended to place this building next to the Peabody Museum on the western side of Divinity Avenue; but the purchase of the Batchelder estate on the eastern side of the Avenue during the summer of 1900 enabled the Corporation to assign to the Museum a better site; next Divinity Hall.

Many new objects were acquired during the year by gift and purchase (p. 303); and the collections when arranged in the new building, and thoroughly catalogued, will prove to be of great interest to students and to the public.

The visit to Europe in 1899–1900 of Professor John E. Wolff, Curator of the Mineralogical Museum, resulted in important additions to the collection of minerals and rocks, the additions being secured by purchase, exchange, and direct collection.

Important additions were made to the Fogg Art Museum during the year under review, the most interesting being the objects deposited in the Museum by Mr. E. W. Forbes, A.B. Harv. 1895 (p. 305). Mr. Forbes has thus taken the initiative in providing the Museum with original works of art of high standard. Several original works of the early English water-color school and nine etchings of the *Liber Studiorum* by Turner have also been acquired by the Museum; while to the Gray Collection of Engravings a few prints and plates of the highest quality have been added. Some progress has thus been made toward the formation of a choice illustrative collection of original works.

The total number of photographs in the Museum is now 29,199. To the collection of slides 533 additions were made during the year. Both photographs and slides are properly catalogued and arranged.

Of the Gray Collection the Museum now has a catalogue by designers as well as a catalogue by engravers. Much work has been done in sorting, mounting, and arranging the Randall Collection, and a catalogue of this collection by engravers has reached 1,511 numbers.

The Director of the Museum calls attention to the defects of the second story of the Museum considered as a place in which to exhibit pictures, prints, or photographs hung on the walls. This story having originally been intended not for this purpose but for drawing-rooms, the walls are not well lighted. To remedy this defect the Director recommends that a hipped roof be constructed instead of the present low and nearly flat roof. It is obvious, however, that such an alteration of the building would be very expensive, and the Corporation have no money with which to pay for it.

At Radcliffe College purchases of real estate made during the year have determined the situation of the College in Cam-

bridge for a long future. The purchases already made on Garden, Mason, Brattle Streets, and Appian Way have fixed the position of the public buildings of Radcliffe College. They are to occupy the block of land between these streets. The purchase made in the year under review of land between Shepard, Linnaean, Walker Streets and the private properties which face on Garden Street, in all somewhat more than three hundred thousand feet of land, has determined the situation of the future dormitories and playgrounds of Radcliffe College. This purchase was made on favorable terms, and the land bought is in a part of Cambridge sufficiently convenient to the Radcliffe public buildings, and likely to remain quiet and pleasingly retired. The land purchases of the year will yield but a very small income; so that the income of Radcliffe College from its moderate endowment will be seriously diminished. Nevertheless, the action of the Radcliffe Corporation is undoubtedly prudent and wise.

The number of graduate students was not as large in 1899-1900 as in the preceding year, and the number of special students slightly diminished. It cannot be expected that the remarkable opportunities offered by Radcliffe for graduate instruction should be well utilized, so long as the College offers no degree of Doctor of Philosophy.

The system of medical visitation which was suggested and put into execution by Dr. George W. Fitz, lately Assistant Professor of Physiology and Hygiene, continues to prove itself useful in a high degree. Tables giving the number of cases of certain specified diseases in each of the numerous buildings occupied by students, and in other parts of Cambridge, and giving also the diseases which prevailed among the students in Cambridge in each month of the year, will be found in the Appendix (p. 342).

During last summer it was determined that Dr. Marshall H. Bailey, Medical Visitor, should give at the opening of the current year a short course of lectures on the physical evils to which the students may be exposed, and on the means of preventing injury to health by excess in eating, drinking, taking exercise, or working, or by eating or drinking too little, sleep-

ing too little, and taking no exercise. These lectures have been thronged.

The Infirmary given to the University by Mr. James Stillman, of New York City, is in process of construction, and will be ready for use at the beginning of the next academic year.

The American colleges seem to be gradually learning how to conduct amateur sports in a reputable manner. Harvard University has had its full share of difficulties during the past thirty years; but it has at last found its way to a satisfactory constitution for a committee to regulate athletic sports. This committee has been imitated in other institutions; and its work has gradually found acceptance among both the undergraduates and the graduates of Harvard University, and among the students and graduates of other institutions. Thus the rules governing eligibility which were worked out by the Harvard committee have proved acceptable in other institutions. The Conference on intercollegiate athletics which opened two and a half years ago at Providence, published a report in the early summer of 1900 in which rules were formulated and recommended for adoption by all universities and colleges. These rules are substantially the same as the Harvard rules.

The chairman of the committee, Professor Ira N. Hollis, has rendered good service to the cause of athletics at Cambridge by taking a strong personal interest in the improvement of the athletic grounds on the south side of Charles River. He has had general direction of the erection of the three new buildings on the grounds, the last of which, the new Boat House, has only recently been formally transferred to the President and Fellows of Harvard College. It was originally to be the gift of the Harvard Club of New York City, and that Club has been chiefly instrumental in providing it; but before the building was finished, Mr. Alexander Agassiz asked permission to cover the exterior of the building with slates instead of shingles, and to plaster the interior throughout as a protection against fire.

A durable and handsome fence now surrounds the playground, save on the southern side where a considerable gap remains to be filled. The next problem to be solved concerns the erec-

tion of permanent and good-looking seats along the sides of the foot-ball field. The University grounds on the south side of Charles River can be made beautiful in the course of the next twenty years ; and they should not be defaced by unsightly banks of cheap wooden seats.

Track athletics and rowing are far the best of the highly competitive sports ; but popular interest is greatest in foot-ball and base-ball. The amount of rowing has steadily increased of late years, since the students began to take a lively interest in The Weld and The Newell Clubs. The University is greatly indebted to Mr. George W. Weld for his successful establishment in Cambridge of the club system.

The Randall Hall Association succeeded well in the very first year of its occupation of Randall Hall. Having now a very cheerful and handsome dining-hall, the Association has enlarged its function, and now accommodates many more students than the Foxcroft Club ever numbered, and a greater variety of students. While it is still possible to board at Randall Hall for less than \$3.00 a week, many students who resort to the Hall spend much more. The so-called "combination" meals are served at such prices that anyone who ate those meals throughout the week would pay \$3.08 for his board. The advantages of the Randall Hall system are that each person pays for the exact number of meals he takes, and for the exact amount which he orders. If he does not go to a meal he pays nothing. He may take twenty-one meals in the Hall per week or one meal. If he is absent, he incurs no charge at all. It is possible to arrange club tables in Randall Hall as well as in Memorial Hall ; and the same credit is given on College bills to those who board at Randall Hall as to those who board at Memorial Hall.

When the expedition of Cuban teachers was first planned, Randall Hall had been in operation about six months. Without that Hall it would have been very much more difficult to deal satisfactorily with those thirteen hundred visitors during the six weeks of their stay in Cambridge. The two Dining-Halls then seemed to be indispensable.

The expedition of Cuban teachers to Cambridge in the summer of 1900 originated in the following letter dated February 6th, written in Havana, and signed by Ernest Lee Conant (A.B. Harv. 1884, LL.B. and A.M. Harv. 1889), who had been practising law in Havana since the end of the war with Spain, and Alexis E. Frye (LL.B. Harv. 1890, A.M. Harv. 1897) who had been for a few weeks Superintendent of Schools for Cuba by military appointment:—

HEADQUARTERS DIVISION OF CUBA, HAVANA,
February 6th, 1900.

PRESIDENT CHARLES W. ELIOT,
Cambridge, Mass.

DEAR PRESIDENT ELIOT: We are planning to carry as many Cuban teachers as possible (perhaps 1,000 or more) to the United States next summer, and as alumni of old Harvard and with the firm belief that our alma mater offers the best facilities, we naturally turn to her for help.

These teachers will have for their object hard study as well as a tour of observation through our country. The general plan will be as follows: The party will leave Cuba on Government transports or on chartered steamers about the last of June. It is our wish that the steamers may land us directly in Boston, and that the teachers may attend the Harvard summer school for six weeks. The next four weeks will then be given to travel and visits to the great cities, perhaps crossing the Continent to San Francisco. We are sure that this brief outline will tell you the whole story. You can readily see what tremendous results would follow with 1,000 intelligent men and women (after such a broadening experience) scattered over the Island. . . .

Of course, the one great item is expense. Can it not be arranged so that the instruction for six weeks at Harvard shall be free? With this as a starting point, we shall organize a Committee in Cambridge and Boston with a view to securing free accommodation in homes during the six weeks. We shall ask various cities to plan temporary entertainment. If we cannot secure Government transports, it may be possible to secure some appropriation in the Island to pay the cost of steamer travel. The teachers are poor; they need this summer's outing and work. They need it for themselves and they need it for the sake of our own country.

The school laws of Cuba (see Article 23 of decree sent you) require courses of summer study from the teachers. This will be one of the great means of educating teachers now in the school-room and who cannot attend normal schools. Many of these teachers lack even the elements of education; many of them have hardly been beyond the limits of their own towns. We cannot carry normal schools to every town and city; but we can carry the teachers to educational institutions, and we want the best, namely, Harvard. We want the teachers to breathe the atmosphere of the greatest school in America. We want them to feel the history and associations, to enjoy the facilities of libraries and laboratories. We want them to come

in contact, not only with the strong minds of the professors, but also with hundreds of the brightest and best teachers in America who will this summer be in Cambridge. We want these teachers to have the culture that comes from travel, we want them to carry this culture back into the Cuban homes and the Cuban schools. We want these teachers to know our country, to know our people. We want the ties between the two countries drawn closer, so that all feeling of antagonism may melt away, in order that our country may do a higher and better work for Cuba. . . .

Of course, we know that the work ordinarily done in the Harvard summer school would need to be adapted to the teachers of Cuba. The work is of too high a grade in general, and the subjects as a whole are such as are not taught in the public schools of Cuba. Without interfering in the slightest degree with the summer school, could you not plan a parallel school with a course specially fitted to the needs of the Cuban teachers? More than nine-tenths of these teachers can neither speak nor understand English. There are enough, however, with a knowledge of English to form a medium for transmitting the work of the summer school to the others. . . .

As soon as we know whether Harvard University will extend this invitation and will do this grand work we will bend every energy to complete the plans, and we shall succeed. We have submitted the proposition to General Wood, and it goes almost without saying that he will give his powerful support to the movement.

Sincerely yours,

(Signed) ERNEST L. CONANT,
ALEXIS E. FRYE.

This letter, which was received in Cambridge on the 12th of February, was considered on the 13th at a special meeting of the President and Fellows; and the President was then authorized to reply in the affirmative if General Wood favored the plan. A few days afterward a telegram was received from General Wood strongly endorsing the project; whereupon the following telegram was sent to Superintendent Frye: "Frye, Havana. Yes. Eliot." Notices of the project and of the affirmative answer of Harvard were thereupon published in the Cuban newspapers, and an active discussion immediately arose as to the feasibility of the plan. It was contended that it would be impossible for young women to go on such an expedition, in violation of the social habits of the Cuban people; the Catholic Church in some places manifested opposition to the project; and at first the general sentiment of the people seemed to be adverse. Superintendent Frye was at some disadvantage, because he had not travelled over the

island, and was personally known in Havana and the immediate neighborhood only. Nevertheless, in the course of a month it became evident that there was so much interest in the project that it was expedient to devise the arrangements for the expedition in detail, and to announce them as soon as possible. Thereupon, Mr. Frye visited Washington and Cambridge about the first of April. In Washington he secured the cordial coöperation of Secretary Root, who subsequently expressed his approval in a cordial letter to President Eliot, dated May 8th (App. p. 346).

When Mr. Frye began to discuss the details of the expedition with the Harvard authorities, it soon appeared that the University would really become responsible for the health and safety of the members of the expedition while in Cambridge, and that it would, therefore, be expedient for the University to supervise the lodging, feeding, and protecting of the members of the expedition during the six weeks of their stay there. It also appeared that the regular Summer School would not be suitable for the Cuban teachers, and that special courses of instruction would be needed. Thereupon, a public meeting was held in Boston to describe the objects of the proposed expedition and call attention to them; and a circular was issued by the President and Fellows of Harvard College asking the community for the means of paying all the expenses of the expedition during its six weeks in Cambridge, including board, lodging, instruction, excursions, and entertainments. Subscriptions began to come in before the end of April, and continued to flow in until the middle of August. The sum asked for was \$70,000; and that sum was ultimately provided, and a little more, the total subscribed being \$71,145.33.

The subscription list, which will be found in the Treasurer's Statement, page 11, is an interesting one because of the large number and the variety of persons who took part in it. It was emphatically a popular subscription, and represented all classes of the community. Very little personal solicitation was necessary. The circular (App. p. 344) was distributed widely, and the newspapers from time to time called attention to the state of the subscription. One large contribution came by order of the Court from the unused balance of a fund raised

near the outbreak of the war with Spain to provide means of caring for the sick and wounded among the troops in Cuba (The Volunteer Aid Fund). When this fund was distributed in accordance with the order of the Court, \$20,000 of it came to the subscription for the Cuban teachers. It is credited on the subscription list to Henry L. Higginson, Treas.

The plan for the instruction comprehended (1) two lessons a day in English; (2) a course of eighteen lectures in Spanish on Physiography, illustrated by as many excursions to different points of geographical interest in the neighborhood of Boston; (3) two courses of lectures in Spanish on historical subjects, — one on the history of the United States, the other on the history of the Spanish colonies in North and South America; and (4) lectures on free libraries, on the organization of the American schools, and on imitation and allied faculties in children. Through special gifts received from Mrs. Quincy A. Shaw, a course of illustrated lectures on the kindergarten was provided for the Cuban women teachers, and a work-shop course on American Sloyd for a selected number of Cuban men. Laboratory instruction in physiography being out of the question for so large a number of persons, field study was adopted as the best substitute. A list of all the teachers employed will be found in the Appendix p. 349. The instruction in English was to be given in forty sections, — twenty for men, and twenty for women. The teachers selected for these sections were in general young graduates and undergraduates of Harvard College and Radcliffe College. Each teacher of English was to give two lessons a day to his or her section, — one from eight o'clock till a quarter before nine, and the other from half-past eleven till twelve. The lectures were all to come between these two English lessons, and no lesson or lecture was to be more than three-quarters of an hour long. Sanders Theatre was to be used for all the lectures; and the English lessons were to be given in forty rooms, all of which were in the College Yard. The afternoons were to be devoted to excursions, each Cuban teacher being provided with at least three excursions each week. Sundays and evenings were to be left free.

On the 16th of May a circular was issued by Superintendent Frye in Havana, setting forth the project as fully as was then possible, giving all details concerning the transportation of the teachers to Boston on government steamers, describing the arrangements made in Cambridge for the accommodation of the visiting teachers and the probable advantages of the trip. The circular also gave instructions concerning clothing, baggage, medical attendance, health certificates, vaccination, and other details. The University had limited the number of Cuban teachers to 1,450, which is the capacity of its largest lecture-room, Sanders Theatre. Moreover, the two dining-halls would not accommodate well more than 1,450 persons in addition to the regular Summer School. Superintendent Frye was therefore obliged to provide means of selecting these 1,450 persons from the 3,500 teachers who were already at work in the public schools of Cuba. The selections were made by Cuban authorities exclusively — in general by the School Boards already established all over the Island. As soon as Superintendent Frye's circular had been distributed through the Cuban towns and villages, the work of selection began.

In the meantime, the following arrangements had been made in Cambridge. Students occupying rooms in College dormitories offered their rooms in sufficient number to accommodate all the Cuban men teachers. Rooms enough were then engaged in houses within half a mile of University Hall to accommodate all the women teachers in groups of from eight to sixteen in a house. Each householder undertook, for a price agreed upon, to receive a certain number of teachers, provide them with furnished rooms, and give them a simple breakfast. The use of three houses was given without rent; and several others were offered but not accepted because they were too far from the Yard. It was necessary to engage a business agent who should have charge of all the arrangements for the accommodation of the visitors in Cambridge; and his first task was to provide rooms for the women teachers. Since many of the students who offered their rooms in College dormitories were unwilling that their beds, linen, and blankets should be used, it was necessary to hire these articles in large quantity for six weeks' use. It was decided that the Cuban women should eat their luncheons

and dinners in Memorial Hall, the capacity of which is 756 seats; and that the men teachers should eat all their meals in Randall Hall, a portion of that hall, however, being reserved for the regular Summer School which consists of both men and women, the women being in the majority. In both halls the Cuban teachers were to be provided with a bill of fare for each meal arranged by the steward, and every teacher was to take whatever he or she wanted from that bill of fare. In Randall Hall, the members of the regular Summer School followed the ordinary rule of that hall, which is to order by the plate and pay for exactly what is ordered. Two methods were in use, therefore, at every meal in Randall Hall,—one for the Cubans; the other for the American Summer School.

By the end of June the business manager, Mr. Clarence C. Mann (A.B. Harv. 1899), had completed his arrangements, and had opened an office in Holden Chapel as headquarters for information—in fact, for all the business of the expedition. He had also engaged about twenty chaperons (see App. p. 350) to live in or near the houses in which the women were lodged, and a large number of clerks and guides (see App. p. 351), most of whom were Harvard students in the Law School, the College, and the Scientific School. All the chaperons, and most of the guides, spoke some Spanish. In addition, a few interpreters were employed. Subsequently it became necessary to engage an additional number of chaperons. These ladies lived in the houses with the Cuban women teachers, ate with them at Memorial Hall, helped them with their English lessons, went shopping with them, adjusted their difficulties, attended to their ailments, tried to prevent overwork and over-excitement, directed them gently and befriended them heartily. The success of the expedition, so far as the women teachers were concerned, was largely due to these ladies.

The embarkation of the Cuban teachers took place at fourteen different ports on the north and south sides of the island, and began on the 22d of June. Some of the teachers from inland towns were as much as a week in getting from their homes to their ports of embarkation, such are the difficulties of travel in inland Cuba. Some of the transports touched at

four ports, others at but two. On one transport only women embarked; on another, only men; on the other three came both men and women. The vessels, being intended for the transportation of troops and supplies, had to be especially fitted up for their new function, and even then they were far from providing the ordinary comforts of ocean liners. Fortunately the sea was smooth, and the weather fine though hot. Up to the last moment there was grave doubt how many teachers would actually sail on the five transports. A printed list prepared in Secretary Frye's office in Havana about the middle of June contained the names of 1397 persons; but nobody felt sure that all these persons would actually embark. The first positive statement of the number of persons to be entertained at the University came by telegraph from General Wood as follows:—

HAVANA, June 29, 1900.

PRESIDENT ELIOT, Harvard, Boston:

Transports left Cuba as follows . . . June 25th, McPherson from Gibara, 110 males, 96 females, total 206 . . . June 26th, Crook from Matanzas, 295 males . . . June 26th, Buford from Cienfuegos, 51 males, 67 females, total 118 . . . June 28th, Sedgwick from Sagua la Grande, 428 females. Total 1047 so far. McClellan leaves from Nuevitas. As soon as her departure is reported will wire you. WOOD. 2.19 P.M.

HAVANA, June 30, 1900.

PRESIDENT ELIOT, Harvard, Boston:

In addition to my telegram of yesterday, McClellan left from Nuevitas 29th with 156 males, 70 females, total 226 . . . Total teachers sailed to date 612 males, 661 females. Total 1273. WOOD. 11.56 A.M.

The expedition was, then, 177 persons short of the maximum number named by the University; but in a country where the means of communication are few and difficult it was a remarkable feat to get 1273 teachers on board the transports within six weeks of the issuing of the first circular letter of instructions from Superintendent Frye's office.

The first transport reached Boston rather earlier than was expected, on the afternoon of June 30th, and the last arrived on Wednesday, July 4th. The transports landed their passengers at the Navy Yard, where excellent arrangements were made to prevent the intrusion of any inconvenient public. With the aid of two Spanish-speaking guides in each car, the

transportation of the teachers to Memorial Hall in Cambridge was managed rapidly and safely. Other guides had charge of the transportation of the baggage and its distribution in Cambridge. At Memorial Hall each teacher received a pin bearing a number, by which number the teacher was thereafter to be recognized as a member of the expedition. At the same time each teacher received a map on which were marked all the College buildings and all the houses in which any Cuban teachers were to live. An excellent map of the vicinity of Boston furnished by the Appalachian Mountain Club was also placed in each teacher's hands; and, finally, a table in Spanish of all the lessons, lectures, and excursions of the first half-week, arranged by days and hours. By the employment of thirty or forty messengers and guides, most of whom could speak some Spanish, the distribution of the teachers to their several quarters was accomplished with reasonable despatch. At first it was necessary to conduct the teachers — especially the women — from their rooms to the Dining Halls and to Sanders Theatre; but in a day or two they learned the way.

The first lesson was given on the morning of Thursday, July 5th, when the division of the whole body into forty sections was made at Memorial Hall, and each section was guided from the Hall to the recitation room which that section was to occupy throughout the six weeks. The first excursion, which started on Thursday afternoon, labored of course under some difficulties, because the meeting places were unfamiliar and most of the teachers knew nothing about electric cars; but in two days the whole machinery of the Cuban School was in operation, and thereafter it ran with remarkable smoothness. The excursions were of three kinds, — the geographical excursions which formed a portion of the instruction in geography; the excursions to several characteristic manufacturing establishments; and the excursions of a social nature. Only one of these last was provided by the University; but there were many others that were arranged by private persons.

The Catholic societies of Boston and Cambridge had made arrangements, with the coöperation of the University, to offer to the Cuban teachers facilities for reading and writing in rooms provided by the University within the College Yard.

For the men, Harvard 1 was devoted to this purpose ; for the women, rooms in Phillips Brooks House. In both places the Catholic societies kept their representatives throughout the day and evening, and were enabled to show the Cubans very acceptable hospitality. The Catholic societies also gave two concert-dances each week for the Cuban teachers in the Hemenway Gymnasium, and took all the responsibility for the management of these entertainments. Three concerts, which were very largely attended and were much enjoyed, were given in Sanders Theatre, — one by the Baptist societies of Cambridge, one by the Catholic societies, and one by the Cubans themselves. Each week a programme in Spanish was issued in which all the lessons or lectures, and all the excursions, were carefully described, and the numbers assigned to each excursion were given (see App. pp. 353, 354).

At the Catholic Church on Holyoke Street, St. Paul's, special services were held for the benefit of the Cuban visitors throughout their stay, and these services were well attended. Through the good offices of Archbishop Williams, Father Fidelis, a graduate of Harvard College in 1861, who had become familiar with the Spanish language through long residence in South America, was brought to Cambridge for the express purpose of attending to the religious wants of the visiting Catholics.

The attendance at the English lessons was excellent, hundreds of the teachers being very regular in their attendance. At the lectures in Spanish in Sanders Theatre the attendance was not so good ; and yet it was creditable, particularly at the lectures on Physiography which were handsomely illustrated by means of lantern slides. The lessons in Sloyd were followed eagerly ; and the kindergarten lessons were well attended, considering that hours could not be found for all of them which were altogether free from other appointments. The attendance at the excursions was about sixty per cent. of the whole number of teachers. The weather was hot much of the time, and the Cubans were not accustomed to walking any distance. Those excursions which demanded much walking were not pleasurable for them, and were attended as a matter of duty.

The physique of the visitors necessarily attracted the immediate attention of those who were responsible for their welfare. The ages of the Cuban teachers ranged from sixteen to sixty, but the extremes were not numerously represented. The selecting bodies in Cuba had selected too many elderly people, who were, of course, incapable of learning English, or indeed of absorbing readily new ideas. About ten per cent. of the men were over forty-four years of age, and about ten per cent. of the women were over thirty-eight. To the Cuban authorities, however, it may have seemed expedient to select for the excursion some persons of influence or high standing in their several communities, whose presence would be a safeguard for the younger members, and who would be able to impress their views on their own people after the return of the expedition. There at first seemed to be too large a proportion of delicate and feeble persons; but the very favorable physical experience of the expedition shows that this feebleness was more apparent than real. It was obvious at first sight that the Cuban men were decidedly shorter than the American men; and Dr. Sargent subsequently confirmed this general observation by the measuring of 479 of the Cuban men. He found that the medium height of the Cuban male teachers was 64.3 inches,—a height surpassed by over ninety per cent. of American male students. The Cuban women were also decidedly shorter than American women; thus, only twenty per cent. of the Cuban women attained a stature of 62.2 inches,—a stature which is surpassed by fifty per cent. of American women students. As to weight, although the Cuban teachers were older than American students, more than ninety per cent. of American male students surpass in weight the 114 pounds attained by only fifty per cent. of the Cuban teachers. The medium weight of the American female student is 114.6 pounds, and the medium weight of the Cuban female teacher was 102 pounds. Eighty per cent. of American female students surpass the medium weight of the Cuban female teachers. Physically the Cuban women seemed decidedly superior as women to the Cuban men as men; and this appearance was borne out by the measurements taken by Dr. Sargent, the Cuban women comparing more favorably with the American

women than the Cuban men with the American men. Most of the Cuban teachers gained steadily in weight while they were in Cambridge; and many returned to Cuba in a better condition of health than when they came thence. This gain of weight may have been due to the fact that they were much more active while in Cambridge than they are habitually in Cuba. The men had to walk to and from all their meals, and to their language lessons and their lectures; and there was some walking on the excursions. The women walked from their rooms to luncheon and dinner, and to their daily lessons and lectures, and many of them went on from two to three excursions per week. Going up and down stairs was also an unwonted exercise for most of the visiting teachers, rural Cuban houses being in general only one story in height.

Of the 1273 members of the expedition, not one died during the entire absence of the expedition from Cuba; and when the transports landed their passengers at the fourteen ports from which they had taken them, every person was able to walk ashore. There was no serious accident to any member of the expedition. This health and safety record is certainly remarkable, considering the strong climatic change which the whole expedition had undergone, and the unwonted fatigues and exposures of their life in Cambridge and during the fortnight of travel which succeeded their stay in Cambridge.

With the rarest exceptions, the Cuban teachers were habitually gentle and polite to each other and to all the Americans who were brought in contact with them. The men gave no trouble whatever in the College dormitories; and both men and women were neat in their persons and tidy in the dining halls. The men smoked incessantly. Only very few of the women smoked at all, and those in private.

The chief result of the expedition was the opening of the minds of these 1300 intelligent people to a flood of new observations and new ideas. There was a great diversity among them as regards education and capacity. As General Wood said in a letter written from Havana on the 24th of February to Major Henry L. Higginson, "You will find all classes among them, from the highly educated to those of very limited education; but they are all enthusiastically interested in edu-

educational matters, and to these people and to the children they are teaching we must look for the Cuba we hope to build up. These men and women will come back to Cuba with very many new ideas and very much better fitted to teach." A fair proportion of them learned much English, and got a new conception of science teaching and history teaching; but many of them were too old to learn a new language, or, indeed, to acquire much intellectual training of any sort; yet all saw with their eyes the American ways of living, and the outside at least of many American institutions, such as schools, hospitals, asylums, libraries, churches, and theatres. They made two voyages on the ocean, they had a hasty view of New York, Philadelphia, and Washington, they caught a glimpse of the country on their rides through New Jersey, Pennsylvania, and Maryland, and they became well acquainted with Cambridge and the neighborhood of Boston from Marblehead on the one side to Point Allerton and Nantasket on the other. They came in contact with a considerable number of American educated young people, and found them serviceable, cordial, and friendly. When the expedition was about to leave Cambridge for the fortnight's journey, the Cubans wished to have the young men who had worked for them and with them in Cambridge accompany them on their journey, and Superintendent Frye so arranged it; and it was with real regret that the guides and the guided parted at Philadelphia, whence the transports sailed for Cuba.

It is to be observed that the men and women who did the real work for the Cubans in Cambridge were for the most part decidedly young in years: most of them were from nineteen to twenty-four years of age. These young people worked with zeal and energy in a long-sustained, alert, care-taking. On occasion some of the clerks and guides worked all night without relaxing the labors of the day, and this in unusually hot weather.

The expedition spent six weeks and a half in Cambridge; and the total cost, including instruction, entertainments, board and lodging, transportation on excursions, medical care, and the cost of clerks, guides, chaperons, and interpreters, was \$68,105. A balance of about \$3,000 still remains of the money

raised by subscription. If, however, the full number of 1,450 had reached Cambridge, the money raised would hardly have sufficed. The details of the expense account (see App. p. 348) include some curious particulars. Thus, the women in Memorial Hall, with their chaperons, cost fully twenty-five per cent. more than the men in Randall Hall, although they took but two meals in Memorial Hall while the men took three in Randall. The numbers in the two Halls were about 700 in Memorial and 600 in Randall. The medical care cost over a thousand dollars, although there was no case of very serious illness, and in spite of the fact that three Cuban physicians accompanied the expedition, whose services were always at the disposition of the sick. For the better treatment of slight indispositions it was found desirable, before half the stay of the expedition in Cambridge was over, to hire a house as an infirmary, and to provide the patients with a resident woman physician and a trained nurse. The lodging of the women in private houses cost more than twice as much as the lodging of the men in the College dormitories, because the students gave the use of their rooms, whereas the Cuban women's rooms had all to be paid for.

One month's salary was paid to the Cuban public school teachers while they were in Cambridge. There were 1,181 of them, the remaining 92 being teachers in the University of Havana and the Institutes, private school teachers, and Cuban chaperons and interpreters, together with three physicians and two priests. The Bursar paid, with perfect precision, these 1,181 persons \$60,257.70 in a little over two hours. In order to offer safe-keeping for the moneys which might be in the possession of the Cuban teachers, the University proposed to receive temporary deposits of money, to be returned to the depositor on demand. This offer was an expedient one; but the Cuban teachers did not avail themselves of it, only \$485.50 being deposited by them during their stay in Cambridge. The Cuban teachers paid for the two books which were used in the English courses, and for their own laundry work; they rode to and from Boston on their own errands at their own cost: but all their other expenses were paid from the subscription so long as they were in Cambridge.

The visitors expressed very warmly both in public and in private their sense of obligation for the hospitality they enjoyed at the University, and for the educational and social privileges which had been provided for them. In general, they seemed interested and light-hearted. The dining halls resounded with their rapid and lively talk during all the meals, and every evening after dinner the women lingered long in the vestibule of Memorial Hall, to which men were admitted. Nevertheless, there was a very pathetic side to the whole experience. Many of the members of the expedition had gone through severe sufferings and anxieties; they had lost friends and members of their own families in the long-continued fighting; they had been sick and half-starved, and in all sorts of peril; and they were wholly uncertain concerning their means of livelihood, their appointments as teachers being but temporary, and expiring soon. The contrast between these experiences and their situation at Cambridge was sharp and profound; and then they were to return to their impoverished island, where both the industrial and the political situation are full of grave anxiety. None of them were sure of re-appointment to their places as teachers; all were to be examined anew not later than December. In short, though the present was enjoyable, the future was anxious. It was natural that they should bid good-bye to prosperous and friendly Cambridge with mingled sentiments of gratitude, pleasure, and sadness.

The expedition fulfilled to a remarkable degree the enthusiastic expectation of good expressed in the letter of February 6th from Messrs. Conant and Frye, and the good bids fair to be abiding.

In the President's Report for the year 1898-99 it was mentioned that in thirty years the unrestricted fund called The Stock Account had been reduced from \$197,034.48 to \$24,971.16 by being charged with repeated deficits in the combined account called University, College, Scientific School, and Library, but that the Corporation had to show for this expenditure important "improvements in the public buildings and dormitories, improvements which the rising scale of comfort and sanitation in the community at large had compelled the

Corporation to adopt." The Corporation hoped that in the year 1899-1900 they would not again incur a heavy deficit in this very important account; but their hope has been disappointed. The deficit of the year in that account was \$36,669.51; and this deficit has extinguished the balance of The Stock Account, and forced the Corporation to draw, to the amount of \$11,698.35, on the principal of another unrestricted fund, called The Insurance and Guaranty Fund.

The Corporation regret very much that any unrestricted funds should be extinguished; and they propose to use all possible means during the current year and the ensuing year to bring the current expenditures within the current receipts: but they are well aware that it is impossible to make reductions without either impairing the range or the efficiency of instruction, or postponing urgently needed improvements. Fortunately, during the current year the income from tuition-fees in the departments in which the recent heavy deficits have occurred will be increased somewhat in consequence of a gain in the number of students. Of course the unrestricted funds of the University as a whole increased during the year under review; for an unrestricted bequest was received from the estate of Robert Charles Billings, which amounted to \$85,000 after the deduction of the taxes levied by the United States. The only account in which there was a serious deficit in 1899-1900 was the account called the University, College, Scientific School, and Library. There were also small deficits in the Divinity School and the Peabody Museum, but every other department showed a surplus. The sum of the surpluses exceeded the sum of the deficits by nearly \$17,000. The place, therefore, where an undesirable economy must be enforced is precisely the place where such a policy is least desirable.

The attention of the Overseers is respectfully invited to the following reports by the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments. Collectively they present a striking picture of great variety and activity in the work of the University.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, 23 November, 1900.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Faculty of Arts and Sciences I have the honor to submit the following report for the academic year 1899–1900.

INSTRUCTION.

I first present the usual account of the instruction provided by the Faculty or given under its authority, including the instruction given in the year 1899–1900, the courses given in the Summer School of 1900, and the most important features of the scheme of instruction announced for the present year.

Instruction given in 1899–1900.

The following list includes all the courses of instruction that were *actually given* under the authority of the Faculty in 1899–1900. It differs from the list published in the Catalogue for that year in omitting a few courses which were withdrawn, because not taken by a sufficient number of competent students or for other reasons, and in a somewhat greater fulness of description, showing the ground covered and the methods of instruction employed. It includes, moreover, a statement of the number of students of various classes and departments in each course.

Courses of Instruction are classed as *full courses* or *half-courses*, according to the estimated amount of work in each, and its value in fulfilling the requirements for a degree. Half-courses are designated in the following list by the abbreviation *hf*. All others were full courses with the exception of German *B*, which counted for a course and a half. In the 'courses of research,' however, the work of a particular student is sometimes increased by special arrangement so that the course counts for him as the equivalent of two, three, or four courses. The figure 1 or 2, attached like an exponent to the

number or letter of a course, indicates that the course was given in the first or in the second half-year only. Courses not so designated extended through the year. A double dagger (§) indicates that the course was open, under certain conditions, to properly qualified students of Radcliffe College. The number of hours of lectures or other class exercises stated for each course means hours *per week* for each student; the number of themes and other individual performances is the number required in the entire course.

The following abbreviations are used to designate the students in the several courses: Instr. for Instructor; Gr. for Graduate Student; Se. for Senior; Ju. for Junior; So. for Sophomore; Fr. for Freshman; Sp. for Special Student of Harvard College; Sc. for Scientific Student; Di. for Divinity Student; Law for Law Student; Me. for Medical Student; Bu. for Bussey Student; R. for Radcliffe Student.

COURSES OF INSTRUCTION GIVEN IN 1899-1900.

Semitic Languages and History.

For Undergraduates and Graduates:—

1. Professor LYON.—Hebrew. Mitchell's Hebrew Lessons. Explanation of parts of Genesis and of the Psalm-book. Practice in memorizing passages of Hebrew. Recitations (3 hours). 1 Se., 4 Ju., 2 Fr., 1 Di. Total 8.
- 6 hf. Professor LYON.—Babylonian-Assyrian History. Contact of the Babylonians and Assyrians with the peoples of the Mediterranean coasts and islands; diffusion of the Babylonian-Assyrian culture through the medium of the Phoenicians. Lectures (1 hour); 5 reports; thesis.
4 Se., 1 Ju., 1 So. Total 6.
12. Professor LYON.—History of Israel, political and social, till the death of Herod the Great. Lectures (2 or 3 hours); 5 reports; thesis.
2 Gr., 12 Se., 18 Ju., 17 So., 1 Fr., 2 Sp., 6 Di. Total 53.
16. Professor TOY.—History of pre-Christian Hebrew Literature. Recitations and lectures (2 hours); reports (weekly); thesis.
1 Se., 1 Ju., 1 Di. Total 3.
13. Professor TOY.—History of the Hebrew Religion, with comparison of other Semitic religions. Recitations and lectures (2 hours); reports (weekly); thesis.
2 Sp., 2 Di. Total 4.
- 15 hf. Professor TOY.—History of the Bagdad Caliphate. Mohammedanism in Egypt and India. Mohammedan Law. The Crusades. The Literature. The Korān. Lectures and recitations (1 hour); reports (weekly); thesis.
4 Se., 5 Ju., 5 So., 3 Sp., 1 Sc. Total 18.

Primarily for Graduates:—

- ‡2. Professor TOY.—Hebrew (second course). Syntax; interpretation of parts of the Prophets and the Poetical Books; criticism of selected portions of the text. Recitations and lectures (2 hours); 3 reports. 1 Ju. Total 1.

- ‡5. Professor LYON. — Assyrian (second course). Delitzsch's Assyrian Grammar; the Chaldean Epic; letters and commercial documents. Recitations (2 hours) and practice in copying inscriptions. 2 Sp. Total 2.
- ‡7. Professor TOY. — Arabic. Lansing's Manual; Nuḥab al-Mulāḥ; The Thousand and One Nights. Recitations and lectures (2 hours). 1 So. Total 1.
- ‡8. Professor TOY. — Arabic (second course). Wright's Grammar; the Moallakāt; Motenebbi; Ibn Ḥaldun; the Korān. Recitations and lectures (2 hours); 5 reports; thesis. 2 Sp. Total 2.

Indo-Iranian Languages.

For Undergraduates and Graduates: —

- 1st hf. Professor LANMAN. — Elements of the Sanskrit language. Easy prose and verse. Recitations (3 hours). 4 Gr., 1 Ju., 1 So. Total 6.
- 1st hf. Professor LANMAN. — Sanskrit (continued). Reading of classical texts from the Hitopadeṣa; reading at sight. Recitations (3 hours). 4 Gr., 1 So. Total 5.
- ‡2nd hf. Professor LANMAN. — Classical Sanskrit (second year). Course for rapid reading. Kathāvalī, from Bühler's Third Book of Sanskrit. Proverbs, from Böhtlingk's Chrestomathie. The 61st book of the Ocean of the Streams of Story. Recitations (3 hours). 5 Gr., 1 R. Total 6.

Primarily for Graduates: —

- ‡3rd hf. Professor LANMAN. — Sanskrit. Course for rapid reading (continued). The entire Bhagavad-gītā. From the Mahā-bhārata: the Gambling Scene, the Flood, the Vision of the Slain, the Great Journey, and Çakuntalā. Recitations (3 hours). 5 Gr., 1 R. Total 6.

Classical Philology.

Primarily for Undergraduates: —

GREEK.

- G. Asst. Professor GULICK. — Course for Beginners. Recitations and lectures (3 hours). 1 Gr., 1 Se., 1 So., 1 Fr., 3 Sp. Total 7.
- A. Mr. HARRIS. — Homer (Iliad and Odyssey, selections); reading at sight. Recitations and occasional lectures (3 hours). 3 So., 13 Fr., 2 Sp. Total 18.
- F hf. Mr. H. W. PRESCOTT. — Greek Prose Composition (elementary course). 2 hours in the first, 1 hour in the second half-year. 2 Ju., 7 Fr., 1 Sp. Total 10.
- B. Asst. Professor GULICK and Mr. HARRIS. — Introduction to Athenian Oratory and Philosophy; Greek Poetry from Homer to Euripides. Lysias (selections); Plato (Apology, Crito, and Euthyphro); Elegiac, Iambic, and Lyric Poets (selections); Euripides (Medea, and readings from other plays). Lectures; written tests, 20 minutes each week; occasional longer tests. 3 hours. 1 Ju., 1 So., 17 Fr. Total 19.

O. Asst. Professor GULICK and Messrs. HARRIS and H. W. PRESCOTT. — Introduction to Athenian Oratory and Philosophy; Greek Poetry from Homer to Euripides. Lysias (selections); Plato (Apology, Crito, and Euthyphro); Elegiac, Iambic, and Lyric Poets (selections); Euripides (Hippolytus, and readings from other plays). Lectures; written tests, 20 minutes each week; occasional longer tests. 3 hours. 2 sections.

1 So., 42 Fr., 3 Sp. Total 46.

E hf. Mr. HARRIS. — Greek Prose Composition (second course). Weekly exercises in translation; Goodwin's Moods and Tenses of the Greek Verb. 2 hours in the first, 1 hour in the second half-year.

1 Sc., 1 Ju., 4 So., 11 Fr. Total 17.

1. Mr. HARRIS. — The Period of Athenian Supremacy. Herodotus (Book VIII); Aeschylus (Persians); Plutarch (Themistocles); Thucydides (Book I, 87 to the end); Plutarch (Pericles); Sophocles (Antigone), and an additional play. Lectures, with occasional tests. 3 hours.

2 Ju., 5 So., 4 Fr. Total 11.

2. Asst. Professor CLIFFORD H. MOORE. — Greek Literature. Aristophanes (Birds); Aeschylus (Prometheus Bound); Thucydides (Books VI and VII); Sophocles (Oedipus Tyrannus); Collateral reading of the Plutus of Aristophanes. Lectures and recitations; frequent exercises in written translation. 3 hours.

2 Ju., 27 So. Total 29.

3 hf. Asst. Professor C. P. PARKER. — Greek Prose Composition (third course). Weekly exercises in translation or original composition (narrative and descriptive). Lectures (1 hour); conferences (weekly).

1 Gr., 1 Se., 4 Ju., 6 So. Total 12.

LATIN.

A. Dr. McDANIEL. — Cicero (selected speeches); Virgil. Practice in reading at sight. Recitations (3 hours). 1 Gr., 2 So., 8 Fr., 7 Sp. Total 18.

F hf. Mr. H. W. PRESCOTT. — Latin Composition (elementary course). 1 hour in the first, 2 hours in the second half-year.

2 Ju., 1 So., 5 Fr., 2 Sp. Total 10.

B. Asst. Professor HOWARD and Dr. McDANIEL. — The War with Hannibal; Lyric and Dramatic Poetry. Livy (Books XXI and XXII); selections from Catullus, Horace, Ovid, Phaedrus, Martial, etc.; Terence (Phormio and Hautontimorumenos). Lectures (2 hours); recitations, oral and written (1 hour). 2 sections.

47 Fr., 1 Sp. Total 48.

C. Asst. Professors C. P. PARKER and CLIFFORD H. MOORE, Dr. McDANIEL, and Mr. H. W. PRESCOTT. — The Early History of Rome; Lyric and Dramatic Poetry. Livy (Books I and II); selections from Catullus, Horace, Ovid, Phaedrus, Martial, etc.; Terence (Phormio and Andria). Lectures (2 hours); recitations, oral and written (1 hour). 4 sections.

2 So., 95 Fr., 1 Sp. Total 98.

E hf. Dr. McDANIEL. — Latin Composition (second course). Weekly exercises in the translation of English narrative. 1 hour in the first, 2 hours in the second half-year.

4 So., 11 Fr. Total 15.

1. Professors SMITH and MINTON WARREN. — Horace (Odes and Epodes); Tacitus (Agricola and selections from the Annals). Recitations and lectures. 3 hours. 4 Ju., 19 So., 1 Sp. Total 24.
2. Asst. Professor C. P. PARKER and Mr. H. W. PRESCOTT. — Tacitus (selections from the Histories); Horace (Odes and Epodes). Lectures and recitations. 3 hours. 2 Ju., 13 So., 3 Fr. Total 18.
- 3^{hf}. Asst. Professor C. P. PARKER. — Latin Composition (third course). Extended study of idiom. Weekly exercises in translation. Lectures (1 hour); conferences (weekly). 3 Gr., 3 Se., 5 Ju., 7 So. Total 18.

For Undergraduates and Graduates:—

GREEK.

6. Professor WRIGHT and Asst. Professor GULICK. — Greek Literature. Demosthenes (On the Crown, with parts of the Oration on the Embassy); Aeschines (Against Ctesiphon); Aeschylus (Seven against Thebes); Sophocles (Antigone); Aristophanes (Frogs); collateral reading. Lectures (3 hours); 5 reports. 5 Gr., 6 Se., 12 Ju., 1 So. Total 24.
- 7^{hf}. Professor WRIGHT. — Greek Prose Composition (fourth course). Written composition in the style of Demosthenes and of Plato, with studies of classical models; translation of selections of standard English (rhetorical and philosophical). Weekly exercises. Lectures, recitations, and conferences (1 hour). 13 Gr., 4 Se., 1 Ju. Total 18.
- 13^{hf}. Asst. Professor C. P. PARKER. — Greek Literature. Plato. Rapid reading and interpretation of selected Dialogues. Lectures (1 hour) and recitations (1 hour a fortnight). 2 Gr., 3 Ju., 1 Instr. Total 6.
8. Professor GOODWIN. — Greek Literature. Plato (Republic). Aristotle (Ethics, Books I-IV and X). Lectures, 3 hours. 12 Gr., 10 Se., 3 Ju. Total 25.
- 15^{hf}. Asst. Professor MOORE. — Greek Literature. Theocritus, Bion, and Moschus. Lectures and recitations; written translations, with comments, by the students. 3 hours. 3 Gr., 5 Se., 3 Ju. Total 11.

LATIN.

6. Asst. Professor HOWARD. — Latin Literature. Suetonius (selections); Pliny (selected Letters); Juvenal (the principal Satires); Martial (selected Epigrams). Lectures and occasional recitations. 3 hours. 7 Gr., 5 Se., 13 Ju., 2 So., 1 Fr., 1 Sp. Total 29.
- 14^{hf}. Professor MINTON WARREN. — Latin Literature. Horace (Satires and Epistles). Recitations and lectures; written translations. 3 hours. 1 Gr., 4 Se., 3 Ju. Total 8.
- 7^{hf}. Professor GREENOUGH. — Latin Composition. Practice in Latin expression and style (narrative and descriptive). Translation into Latin prose; original essays in Latin. Weekly exercises; conferences. 1 hour. 13 Gr., 2 Se., 1 Ju. Total 16.
- 8^{hf}. Professor GREENOUGH. — Latin Literature. Plautus (three plays). Lectures (3 hours); written translations; 3 reports. 6 Gr., 7 Se., 3 Ju. Total 16.

Corporation to adopt." The Corporation hoped that in the year 1899-1900 they would not again incur a heavy deficit in this very important account; but their hope has been disappointed. The deficit of the year in that account was \$36,669.51; and this deficit has extinguished the balance of The Stock Account, and forced the Corporation to draw, to the amount of \$11,698.35, on the principal of another unrestricted fund, called The Insurance and Guaranty Fund.

The Corporation regret very much that any unrestricted funds should be extinguished; and they propose to use all possible means during the current year and the ensuing year to bring the current expenditures within the current receipts: but they are well aware that it is impossible to make reductions without either impairing the range or the efficiency of instruction, or postponing urgently needed improvements. Fortunately, during the current year the income from tuition-fees in the departments in which the recent heavy deficits have occurred will be increased somewhat in consequence of a gain in the number of students. Of course the unrestricted funds of the University as a whole increased during the year under review; for an unrestricted bequest was received from the estate of Robert Charles Billings, which amounted to \$85,000 after the deduction of the taxes levied by the United States. The only account in which there was a serious deficit in 1899-1900 was the account called the University, College, Scientific School, and Library. There were also small deficits in the Divinity School and the Peabody Museum, but every other department showed a surplus. The sum of the surpluses exceeded the sum of the deficits by nearly \$17,000. The place, therefore, where an undesirable economy must be enforced is precisely the place where such a policy is least desirable.

The attention of the Overseers is respectfully invited to the following reports by the Deans of the Faculties and Schools, and the Directors of the Scientific Establishments. Collectively they present a striking picture of great variety and activity in the work of the University.

CHARLES W. ELIOT, *President*.

CAMBRIDGE, 23 November, 1900.

REPORTS OF DEPARTMENTS.

THE FACULTY OF ARTS AND SCIENCES.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Faculty of Arts and Sciences I have the honor to submit the following report for the academic year 1899–1900.

INSTRUCTION.

I first present the usual account of the instruction provided by the Faculty or given under its authority, including the instruction given in the year 1899–1900, the courses given in the Summer School of 1900, and the most important features of the scheme of instruction announced for the present year.

Instruction given in 1899–1900.

The following list includes all the courses of instruction that were *actually given* under the authority of the Faculty in 1899–1900. It differs from the list published in the Catalogue for that year in omitting a few courses which were withdrawn, because not taken by a sufficient number of competent students or for other reasons, and in a somewhat greater fulness of description, showing the ground covered and the methods of instruction employed. It includes, moreover, a statement of the number of students of various classes and departments in each course.

Courses of Instruction are classed as *full courses* or *half-courses*, according to the estimated amount of work in each, and its value in fulfilling the requirements for a degree. Half-courses are designated in the following list by the abbreviation *hf*. All others were full courses with the exception of German *B*, which counted for a course and a half. In the 'courses of research,' however, the work of a particular student is sometimes increased by special arrangement so that the course counts for him as the equivalent of two, three, or four courses. The figure 1 or 2, attached like an exponent to the

number or letter of a course, indicates that the course was given in the first or in the second half-year only. Courses not so designated extended through the year. A double dagger (§) indicates that the course was open, under certain conditions, to properly qualified students of Radcliffe College. The number of hours of lectures or other class exercises stated for each course means hours *per week* for each student; the number of themes and other individual performances is the number required in the entire course.

The following abbreviations are used to designate the students in the several courses: Instr. for Instructor; Gr. for Graduate Student; Se. for Senior; Ju. for Junior; So. for Sophomore; Fr. for Freshman; Sp. for Special Student of Harvard College; Sc. for Scientific Student; Di. for Divinity Student; Law for Law Student; Me. for Medical Student; Bu. for Bussey Student; R. for Radcliffe Student.

COURSES OF INSTRUCTION GIVEN IN 1899-1900.

Semitic Languages and History.

For Undergraduates and Graduates:—

1. Professor LYON.—Hebrew. Mitchell's Hebrew Lessons. Explanation of parts of Genesis and of the Psalm-book. Practice in memorizing passages of Hebrew. Recitations (3 hours). 1 Se., 4 Ju., 2 Fr., 1 Di. Total 8.
- 6 hf. Professor LYON.—Babylonian-Assyrian History. Contact of the Babylonians and Assyrians with the peoples of the Mediterranean coasts and islands; diffusion of the Babylonian-Assyrian culture through the medium of the Phoenicians. Lectures (1 hour); 5 reports; thesis.
4 Se., 1 Ju., 1 So. Total 6.
12. Professor LYON.—History of Israel, political and social, till the death of Herod the Great. Lectures (2 or 3 hours); 5 reports; thesis.
2 Gr., 12 Se., 13 Ju., 17 So., 1 Fr., 2 Sp., 6 Di. Total 53.
16. Professor TOY.—History of pre-Christian Hebrew Literature. Recitations and lectures (2 hours); reports (weekly); thesis.
1 Se., 1 Ju., 1 Di. Total 3.
18. Professor TOY.—History of the Hebrew Religion, with comparison of other Semitic religions. Recitations and lectures (2 hours); reports (weekly); thesis.
2 Sp., 2 Di. Total 4.
- 15 hf. Professor TOY.—History of the Bagdad Califate. Mohammedanism in Egypt and India. Mohammedan Law. The Crusades. The Literature. The Korān. Lectures and recitations (1 hour); reports (weekly); thesis.
4 Se., 5 Ju., 5 So., 3 Sp., 1 Sc. Total 18.

Primarily for Graduates:—

12. Professor TOY.—Hebrew (second course). Syntax; interpretation of parts of the Prophets and the Poetical Books; criticism of selected portions of the text. Recitations and lectures (2 hours); 3 reports. 1 Ju. Total 1.

- ‡5. Professor LYON. — Assyrian (second course). Delitzsch's Assyrian Grammar; the Chaldean Epic; letters and commercial documents. Recitations (2 hours) and practice in copying inscriptions. 2 Sp. Total 2.
- ‡7. Professor TOY. — Arabic. Lansing's Manual; Nuhab al-Mulah; The Thousand and One Nights. Recitations and lectures (2 hours). 1 So. Total 1.
- ‡8. Professor TOY. — Arabic (second course). Wright's Grammar; the Moallakāt; Motenebbi; Ibn Haldun; the Korān. Recitations and lectures (2 hours); 5 reports; thesis. 2 Sp. Total 2.

Indo-Iranian Languages.

For Undergraduates and Graduates : —

- 1st hf. Professor LANMAN. — Elements of the Sanskrit language. Easy prose and verse. Recitations (3 hours). 4 Gr., 1 Ju., 1 So. Total 6.
- 1st hf. Professor LANMAN. — Sanskrit (continued). Reading of classical texts from the Hitopadeśa; reading at sight. Recitations (3 hours). 4 Gr., 1 So. Total 5.
- ‡1st hf. Professor LANMAN. — Classical Sanskrit (second year). Course for rapid reading. Kathāvalī, from Bühler's Third Book of Sanskrit. Proverbs, from Böhtlingk's Chrestomathie. The 61st book of the Ocean of the Streams of Story. Recitations (3 hours). 5 Gr., 1 R. Total 6.

Primarily for Graduates : —

- ‡3rd hf. Professor LANMAN. — Sanskrit. Course for rapid reading (continued). The entire Bhagavad-gītā. From the Mahā-bhārata: the Gambling Scene, the Flood, the Vision of the Slain, the Great Journey, and Ākuntalā. Recitations (3 hours). 5 Gr., 1 R. Total 6.

Classical Philology.

Primarily for Undergraduates : —

GREEK.

- G. Asst. Professor GULICK. — Course for Beginners. Recitations and lectures (3 hours). 1 Gr., 1 Se., 1 So., 1 Fr., 3 Sp. Total 7.
- A. Mr. HARRIS. — Homer (Iliad and Odyssey, selections); reading at sight. Recitations and occasional lectures (3 hours). 3 So., 13 Fr., 2 Sp. Total 18.
- F hf. Mr. H. W. PRESCOTT. — Greek Prose Composition (elementary course). 2 hours in the first, 1 hour in the second half-year. 2 Ju., 7 Fr., 1 Sp. Total 10.
- B. Asst. Professor GULICK and Mr. HARRIS. — Introduction to Athenian Oratory and Philosophy; Greek Poetry from Homer to Euripides. Lysias (selections); Plato (Apology, Crito, and Euthyphro); Elegiac, Iambic, and Lyric Poets (selections); Euripides (Medea, and readings from other plays). Lectures; written tests, 20 minutes each week; occasional longer tests. 3 hours. 1 Ju., 1 So., 17 Fr. Total 19.

G. Asst. Professor GULICK and Messrs. HARRIS and H. W. PRESCOTT. — Introduction to Athenian Oratory and Philosophy; Greek Poetry from Homer to Euripides. Lysias (selections); Plato (Apology, Crito, and Euthyphro); Elegiac, Iambic, and Lyric Poets (selections); Euripides (Hippolytus, and readings from other plays). Lectures; written tests, 20 minutes each week; occasional longer tests. 3 hours. 2 sections.

1 So., 42 Fr., 3 Sp. Total 46.

E hf. Mr. HARRIS. — Greek Prose Composition (second course). Weekly exercises in translation; Goodwin's Moods and Tenses of the Greek Verb. 2 hours in the first, 1 hour in the second half-year.

1 Se., 1 Ju., 4 So., 11 Fr. Total 17.

1. Mr. HARRIS. — The Period of Athenian Supremacy. Herodotus (Book VIII); Aeschylus (Persians); Plutarch (Themistocles); Thucydides (Book I, 87 to the end); Plutarch (Pericles); Sophocles (Antigone), and an additional play. Lectures, with occasional tests. 3 hours.

2 Ju., 5 So., 4 Fr. Total 11.

2. Asst. Professor CLIFFORD H. MOORE. — Greek Literature. Aristophanes (Birds); Aeschylus (Prometheus Bound); Thucydides (Books VI and VII); Sophocles (Oedipus Tyrannus); Collateral reading of the Plutus of Aristophanes. Lectures and recitations; frequent exercises in written translation. 3 hours.

2 Ju., 27 So. Total 29.

3 *hf.* Asst. Professor C. P. PARKER. — Greek Prose Composition (third course). Weekly exercises in translation or original composition (narrative and descriptive). Lectures (1 hour); conferences (weekly).

1 Gr., 1 Se., 4 Ju., 6 So. Total 12.

LATIN.

A. Dr. McDANIEL. — Cicero (selected speeches); Virgil. Practice in reading at sight. Recitations (3 hours). 1 Gr., 2 So., 8 Fr., 7 Sp. Total 18.

F hf. Mr. H. W. PRESCOTT. — Latin Composition (elementary course). 1 hour in the first, 2 hours in the second half-year.

2 Ju., 1 So., 5 Fr., 2 Sp. Total 10.

B. Asst. Professor HOWARD and Dr. McDANIEL. — The War with Hannibal; Lyric and Dramatic Poetry. Livy (Books XXI and XXII); selections from Catullus, Horace, Ovid, Phaedrus, Martial, etc.; Terence (Phormio and Hautontimorumenos). Lectures (2 hours); recitations, oral and written (1 hour). 2 sections.

47 Fr., 1 Sp. Total 48.

C. Asst. Professors C. P. PARKER and CLIFFORD H. MOORE, Dr. McDANIEL, and Mr. H. W. PRESCOTT. — The Early History of Rome; Lyric and Dramatic Poetry. Livy (Books I and II); selections from Catullus, Horace, Ovid, Phaedrus, Martial, etc.; Terence (Phormio and Andria). Lectures (2 hours); recitations, oral and written (1 hour). 4 sections.

2 So., 95 Fr., 1 Sp. Total 98.

E hf. Dr. McDANIEL. — Latin Composition (second course). Weekly exercises in the translation of English narrative. 1 hour in the first, 2 hours in the second half-year.

4 So., 11 Fr. Total 15.

94 *h*. Dr. POLL. — German Grammar and practice in writing German (third course). Recitations (1 hour) and conferences.

2 Gr., 4 Se., 1 Ju., 2 So., 2 Sp. Total 11.

2a. Associate Professor BARTLETT and Dr. BIERWIRTH. — Introduction to German Literature of the Eighteenth Century. Lessing (Emilia Galotti); Schiller (Die Jungfrau von Orleans, Maria Stuart, Das Lied von der Glocke); Goethe (Die Italienische Reise). German Ballads and Lyrics. Translation, reading at sight, and composition. Recitations (3 hours).

1 Se., 2 Ju., 10 So., 22 Fr., 3 Sp., 1 Sc. Total 39.

3. Dr. POLL, assisted by Mr. W. H. Reed. — The German Drama of the Classic Period. Lessing (Minna von Barnhelm, Emilia Galotti, Nathan der Weise); Schiller (Maria Stuart, Die Jungfrau von Orleans, Wallensteins Tod); Goethe (Egmont, Faust). Lectures in German (1 hour); recitations (2 hours); conferences.

5 Se., 20 Ju., 33 So., 11 Fr., 6 Sp., 1 Sc. Total 76.

4. Asst. Professor SCHILLING. — Goethe and his Time. Lessing (Emilia Galotti); Schiller (Wallenstein); Goethe (Götz von Berlichingen, Egmont, Iphigenie, Dichtung und Wahrheit, Gedichte, Faust). Lectures in German (1 hour); recitations (2 hours); optional conferences; 6 reports.

1 Se., 16 Ju., 12 So., 9 Fr., 2 Sp. Total 40.

GERMAN LITERATURE.

For Undergraduates and Graduates: —

25 *h*. Professor FRANCKE. — Introduction to the History of German Literature. Lectures in English, and collateral reading of representative works in English translations. Lectures (1 hour); required reading.

1 Gr., 4 Se., 8 Ju., 6 So., 2 Sp., 1 Sc. Total 22.

5. Professor FRANCKE and Mr. RANSMEIER. — History of German Literature to the Nineteenth Century; with special study of the Classic Periods of the Twelfth and Eighteenth Centuries. Lectures (3 hours); required reading; thesis.

4 Gr., 6 Se., 15 Ju., 12 So., 4 Fr., 2 Sp. Total 43.

28 *h*. Mr. NICHOLS. — German Literature in the First Half of the Nineteenth Century. Kleist; Uhland; Heine. Lectures (1 hour), with collateral reading; recitations (2 hours).

2 Gr., 7 Se., 11 Ju., 7 So., 1 Fr., 1 Sc., 1 Law. Total 30.

26 *h*. Mr. NICHOLS. — German Literature in the Nineteenth Century. The Development of the Novel and the Drama. Lectures (1 hour), with collateral reading; recitations (2 hours).

2 Gr., 4 Se., 5 Ju., 6 So., 1 Fr., 1 Sc. Total 19.

8. Asst. Professor SCHILLING. — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann (Der arme Heinrich); Wolfram (Parzival); Walther von der Vogelweide. Translation into modern German. Lectures (1 hour) and collateral reading; recitations (2 hours).

4 Gr., 2 Se., 2 Ju., 1 Sp. Total 9.

10 *h*. Dr. POLL. — German Literature from the Reformation to the Classic Period of the Eighteenth Century. Lectures (1 hour), with collateral reading; 4 reports.

2 Gr., 2 Se., 1 So. Total 5.

- 8^h *hf.* Professor SMITH. — Latin Literature. Lucretius. Lectures. 3 hours.
8 Gr., 7 Se., 3 Ju. Total 18.
- 9 *hf.* Professor GREENOUGH. — Latin Composition. Practice in Latin expression and style (exposition and argument). Original essays in Latin (weekly). Conferences. 1 hour. 1 Gr., 1 Se. Total 2.
15. Professor MORGAN and Asst. Professor MARCOU. — The Works of Virgil, with studies of his Sources and of his Literary Influence from his own times to the Renaissance. Lectures; written translations. 3 hours.
5 Gr., 4 Se., 2 Ju. Total 11.
10. Professor GREENOUGH. — The Private Life of the Romans. Lectures, with stereopticon illustrations (2 or 3 hours); required reading; 2 theses.
15 Gr., 26 Se., 40 Ju., 21 So., 5 Sp., 13 Sc. Total 120.
12. Professor SMITH. — History of Latin Literature (Prose). Lectures (3 hours), with direction of the students' private reading; reports and comments on reading. 18 Gr., 1 Se., 1 Ju. Total 20.

Primarily for Graduates: —

CLASSICAL PHILOLOGY.

- 25 *hf.* Professor MINTON WARREN. — Introductory Course in the Text-Criticism and Interpretation of Classical Authors: for 1899–1900, Terence. Lectures and discussions (1½ hours). Thesis. 16 Gr., 1 Se. Total 17.
- 52¹ *hf.* Professor MORGAN. — Greek Elegiac, Iambic, and Lyric Poetry. Lectures (3 hours); report; thesis. 4 Gr. Total 4.
- †33^h *hf.* Professor GOODWIN. — Pindar (Olympian and Pythian Odes) with some poems of Bacchylides. Lectures. 2 hours.
11 Gr., 1 Se., 1 R. Total 13.
- †48. Professor WRIGHT. — Sophocles. The Plays and Fragments. Lectures, recitations, and conferences (2 or 3 hours); 3 reports; thesis.
18 Gr., 1 Se., 2 R. Total 21.
- †44. Professor GOODWIN. — Thucydides. Lectures. 2 hours.
14 Gr., 1 Se. Total 15.
40. Professor MORGAN. — Literary Criticism in Antiquity. Aristotle (Art of Poetry); Longinus (On the Sublime); Horace (Art of Poetry); Quintilian (Book X). Lectures (3 hours); 3 reports; thesis. 4 Gr. Total 4.
- †54. Asst. Professor ROPES. — The Acts of the Apostles. Lectures (2 hours); 2 reports. 1 Ju. Total 1.
- 56¹ *hf.* Asst. Professor HOWARD. — The Reigns of Claudius and Nero. Suetonius (Lives) and Tacitus (Annals XI–XVI). Lectures (3 hours). Investigations of special topics. 7 Gr., 1 Se., 1 So. Total 9.
- 34¹ *hf.* Asst. Professor GULICK. — Greek Grammar (Sounds and Inflections). Study of Dialectic Inscriptions. Lectures (3 hours); 3 reports. 4 Gr. Total 4.
- †28^h *hf.* Professor GREENOUGH. — Latin Grammar (Syntax). Lectures (3 hours); 2 reports. 4 Gr., 1 R. Total 5.

- 58^h *hf.* Asst. Professor HOWARD. — Introduction to Latin Palaeography. Lectures; practice in reading facsimiles of manuscripts. 3 hours.
6 Gr. Total 6.
55. Professor MINTON WARREN. — Interpretation of Latin Inscriptions important for their Language or Content. Lectures and practical exercises (2 or 3 hours).
4 Gr., 1 Ju. Total 5.
- 124^h *hf.* Professor GOODWIN. — The Legal Antiquities of Athens and the Judicial Process of the Athenian Courts. Lectures. 1 hour. 2 Gr. Total 2.
- 159^h *hf.* Asst. Professor CLIFFORD H. MOORE. — Roman Provincial Administration. Lectures (2 or 3 hours); thesis. 8 Gr. Total 8.

20. THE SEMINARY OF CLASSICAL PHILOLOGY.

Professors SMITH and WRIGHT, Directors for 1899-1900. — Training in philological criticism and research. Text-criticism and interpretation of Greek and Latin authors: for 1899-1900, Sophocles (*Oedipus Coloneus*) and Lucretius (*Book IV*). 1 thesis, discussed in open meeting. 3 hours.
6 Gr. Total 6.

English.

Primarily for Undergraduates: —

- A. Professors A. S. HILL and BRIGGS. and Messrs. HURLBUT, COPELAND, COBB, J. G. HART, YOUNG, NOYES, CUNIFF, SWANN, and RIDEOUT. — Rhetoric and English Composition. A. S. Hill's *Principles of Rhetoric* (revised and enlarged edition). Daily themes; 12 long themes. Lectures, recitations, reading, and conferences. 1 hour in six sections, 2 hours in nineteen sections. 3 So., 346 Fr., 55 Sp., 150 Sc., 1 Me. Total 555.
- C^h *hf.* Asst. Professor BAKER and Mr. WRIGHTINGTON. — English Composition. Forensics. (For students who failed to pass in this course in 1898-99; to be discontinued after 1899-1900.) 15 Se., 3 Ju., 2 So. Total 20.
- BC^h *hf.* Messrs. HURLBUT and T. HALL. — English Composition. Written exercises (75 daily themes, 6 fortnightly themes, 1 thesis), lectures (1 hour), and conferences (fortnightly).
1 Se., 1 Ju., 4 So., 1 Fr., 1 Sp., 73 Sc. Total 81.
31. Messrs. GARDINER, LA ROSE and KIDDER. — Wendell's English Composition. Reading of English classics (one each month). Daily and fortnightly themes. Lectures (2 hours); conferences (fortnightly).
1 Se., 5 Ju., 89 So., 41 Fr., 27 Sp., 8 Sc. Total 171.
22. Professor WENDELL, Dr. MAYNADIER, and Messrs. GREENOUGH and MILLER. — English Composition. Wendell's English Composition. Required reading in the English Bible. Study in detail of extracts from Homer and from Virgil. Daily themes throughout the year; eight fortnightly themes in the first half-year; one long theme in second half-year. Lectures (2 hours); conferences (fortnightly).
1 Se., 2 Ju., 52 So., 11 Fr., 1 Sp., 2 Sc. Total 69.
- 36^h *hf.* Messrs. GARDINER and LA ROSE, and an assistant. — English Composition. Wendell's English Composition. Reading of English classics (one each month). 90 daily, 7 fortnightly themes. Lectures (2 hours); conferences (fortnightly).
1 Gr., 1 Se., 2 Ju., 56 So., 25 Fr., 2 Sp., 2 Sc. Total 89.

- 28 *hf.* Professors A. S. HILL, BRIGGS, WENDELL, and KITTREDGE, and Mr. J. G. HART. — English Literature. History and Development of English Literature in outline. Lectures (3 hours) and conferences; 25 reports.
1 Gr., 1 So., 186 Fr., 19 Sp. Total 157.
18. Asst. Professor BAKER and Mr. T. HALL. — Expository and Argumentative Composition. Lectures (3 hours), conferences, and written exercises (18 reports, 2–3 briefs, 2 forensics, 3 theses).
8 Se., 39 Ju., 11 So., 3 Sp., 1 Law. Total 62.
30. Asst. Professor BAKER and Mr. H. L. PRESCOTT. — Forensics and Debating. Two forensics; 3 debates, as principal speaker, and 7 short speeches from the floor, for each student; 5 briefs. 3 hours till Dec. 1; after that date 5 hours.
8 Se., 37 Ju., 5 So., 3 Sp., 1 Law. Total 54.
- 10 *hf.* Mr. WINTER. — Elocution. Practice in the delivery of speeches, original or selected (once a fortnight for each student), and in reading. 2 hours. 7–4 sections.
1 Gr., 23 Se., 59 Ju., 18 So., 10 Sp., 3 Sc., 4 Law. Total 118.
- 3¹ *hf.* Dr. SCHOFIELD. — Anglo-Saxon. Bright's Anglo-Saxon Reader. Recitations, with occasional lectures. 3 hours.
13 Gr., 5 Se., 3 Ju., 2 So., 1 Fr. Total 24.

For Undergraduates and Graduates: —

1. Drs. GARRETT and F. N. ROBINSON. — English Literature. Chaucer. Lectures and recitations. 3 hours. 9 Gr., 2 Se., 2 Ju., 1 So. Total 14.
2. Professor KITTREDGE. — English Literature. Shakspeare (six plays). Lectures and recitations. 3 hours.
14 Gr., 27 Se., 45 Ju., 18 So., 1 Fr., 2 Sp., 2 Sc., 1 Law. Total 110.
- 11¹ *hf.* Dr. GARRETT. — English Literature. Bacon. Recitations, with occasional lectures (3 hours); 1 theme.
3 Gr., 9 Se., 6 Ju., 7 So., 3 Fr., 1 Sp., 1 Law. Total 30.
- 11² *hf.* Dr. F. N. ROBINSON. — English Literature. Milton. Lectures and recitations (3 hours); 1 report.
3 Gr., 4 Se., 8 Ju., 10 So., 6 Fr., 3 Sp. Total 34.
- 15² *hf.* Mr. GARDINER and Mr. MILLER. — English Literature, from the closing of the Theatres to the death of Dryden (1642–1700). Lectures (2 hours) and occasional conferences; reports (two each week).
1 Gr., 7 Se., 3 Ju., 6 So., 1 Fr., 3 Sp., 3 Sc., 1 Me. Total 25.
- 8a¹ *hf.* Mr. FLETCHER and Mr. GENTNER. — English Literature, from the publication of the Lyrical Ballads to the death of Scott (1798–1832). Lectures (2 hours) and conferences (weekly); reports (weekly).
5 Gr., 59 Se., 91 Ju., 107 So., 8 Fr., 25 Sp., 19 Sc., 5 Law. Total 319.
- 8b² *hf.* Asst. Professor GATES and Mr. GENTNER. — English Literature, from the death of Scott to the death of Tennyson (1832–1892). Lectures (2 hours) and conferences (fortnightly); 9 reports.
17 Gr., 56 Se., 96 Ju., 130 So., 14 Fr., 26 Sp., 20 Sc. Total 359.

- 37² *hf.* DR. MAYNADIER. — English Literature. The Story of King Arthur, from Malory to the present time. Lectures (2 or 3 hours) and occasional conferences; 14 reports.
3 Gr., 8 Se., 10 Ju., 13 So., 2 Fr., 1 Sp., 3 Sc. Total 40.
- 34 *hf.* MR. COPELAND and MR. MILLER. — English Literature. English Letter Writers. Lectures (1 hour); 14 reports or 1 thesis.
6 Gr., 35 Se., 44 Ju., 36 So., 8 Fr., 11 Sp., 10 Sc. Total 150.
- 33² *hf.* PROFESSOR WENDELL and MR. GREENOUGH. — English Literature. Literary History of America. Lectures (3 hours) and occasional conferences. Brief weekly reports, and 3 long reports, on required reading.
10 Gr., 29 Se., 27 Ju., 16 So., 6 Sp., 5 Sc. Total 93.
12. ASST. PROFESSOR GATES. — English Composition. Lectures (2 hours) and conferences (fortnightly). Themes, (163 daily and 15 fortnightly; the latter rewritten or revised).
7 Gr., 13 Se., 12 Ju., 2 So., 1 Sp., 1 Sc. Total 36.

Primarily for Graduates:—

- 3² *hf.* PROFESSOR KITTREDGE. — Anglo-Saxon. *Béowulf*. Lectures and recitations. 3 hours.
13 Gr., 1 Se., 1 Ju. Total 15.
- 25² *hf.* DR. F. N. ROBINSON. — Anglo-Saxon. *Cædmon*; *Cynewulf*. Seminary work (3 hours); thesis.
3 Gr. Total 3.
- 27¹ *hf.* PROFESSOR KITTREDGE. — The English and Scottish Popular Ballads. Lectures and seminary work (3 hours); thesis. 7 Gr., 1 Se. Total 8.
- 36¹ *hf.* MR. GARDINER. — English Literature. The English Bible. Lectures (3 hours); thesis.
3 Gr., 1 Se., 1 Sp., 1 Di. Total 6.
14. ASST. PROFESSOR BAKER. — English Literature. The Drama, from the Miracle Plays to the closing of the Theatres. Lectures (3 hours) and occasional conferences. Weekly reports, first half-year; thesis in second half-year.
10 Gr., 7 Se., 1 Ju., 1 So., 1 Sp. Total 20.
- 9² *hf.* MR. FLETCHER. — English Literature. Spenser. Lectures (3 hours); weekly reports or thesis.
2 Gr., 2 Se., 2 Ju., 4 So. Total 10.
- 13 *hf.* ASST. PROFESSOR GATES. — English Literature. Literary Criticism in England since the Sixteenth Century. Lectures (1 hour); 2 theses.
9 Gr., 5 Se., 1 Ju., 1 So., 1 Sp. Total 17.
- 24¹ *hf.* PROFESSOR A. S. HILL. — English Literature. Studies in the Poetry of the Nineteenth Century. Lectures and discussion of authors read (3 hours); thesis.
5 Gr., 4 Se., 2 Ju., 1 So., 1 Sp., 1 Sc. Total 14.
- 5¹ *hf.* PROFESSOR A. S. HILL. — English Composition (advanced course). Lectures and conferences (3 hours); 6 short and 6 long themes.
10 Gr., 6 Se., 1 Sp. Total 17.
- 5² *hf.* PROFESSOR A. S. HILL. — English Composition and Literature. Studies in modern English Prose. Lectures, with discussions of authors and of compositions on authors, including one talk by each student on a chosen author and one criticism of each talk (3 hours); 7 themes; thesis.
7 Gr., 6 Se., 1 So., 1 Sp. Total 15.

COURSES OF RESEARCH.

- 26^h *hf.* Dr. GARRETT. — Langland and Gower. Lectures; investigations of special topics; thesis. 1 Gr. Total 1.
- 20^f. Mr. FLETCHER. — English Literature in its relation to Continental Literature in the Sixteenth and Seventeenth Centuries. Conferences; thesis. 1 Gr. Total 1.
- 20^g. Asst. Professor BAKER. — The English Drama: its history, and its relation to Continental Drama. Library work; conferences; thesis. 3 Gr. Total 3.

Germanic Languages and Literatures.

GERMAN.

Primarily for Undergraduates: —

- A. Mr. NICHOLS, Dr. BIERWIRTH, Mr. COAR, Dr. CARR, Dr. SKINNER, and Mr. RIEMER. — Elementary Course. Grammar; translation from German into English, with elementary exercises in translating into German. Recitations (3 hours). 11 sections.
2 Gr., 1 Se., 4 Ju., 3 So., 176 Fr., 13 Sp., 105 Sc. Total 304.
- B. Dr. POLL. — Elementary Course. Grammar; composition; translation and reading at sight. Selections in prose and poetry. Recitations (5 hours). 18 Fr., 3 Sp., 1 Sc. Total 22.
- C. Asst. Professor SCHILLING, Mr. COAR, and Dr. SKINNER. — German Prose and Poetry. Reading at sight; grammar and composition (weekly exercises). Recitations (3 hours) and optional conferences. 3 sections.
1 Gr., 5 Ju., 9 So., 62 Fr., 9 Sp., 2 Sc. Total 88.
- 1a. Professor VON JAGEMANN and Messrs. NICHOLS and COAR. — German Prose and Poetry. Reading at sight; grammar and composition (one exercise written in class, and one written outside, each week). Recitations (3 hours). 3 sections.
2 Se., 4 Ju., 46 So., 10 Fr., 2 Sp., 1 Sc. Total 65.
- 1b. Associate Professor BARTLETT. — German Prose. Subjects in History and Biography. Selections from Freytag's Historical Essays, von Sybel's Die Erhebung Europas gegen Napoleon I; and biographies in Der Neue Plutarch. Reading at sight. Recitations. 3 hours.
3 Se., 2 Ju., 14 So., 1 Fr., 2 Sp., 1 Sc. Total 23.
- 1c. Dr. BIERWIRTH and Dr. CARR. — German Prose. Subjects in Natural Science. Reading at sight. Recitations (3 hours). 2 sections.
4 Ju., 8 So., 4 Fr., 1 Sp., 20 Sc. Total 37.
- Ehf.* Mr. NICHOLS. — German Grammar and practice in writing German (first course). Written exercises (weekly). Recitations (2 hours in first, 1 hour in second, half-year). 1 Se., 2 Ju., 3 So., 3 Fr., 1 Sp. Total 10.
- Fhf.* Dr. BIERWIRTH. — German Grammar and practice in writing German (second course). Recitations (2 hours in first, 1 hour in second, half-year). 1 Se., 5 Ju., 4 So., 1 Fr. Total 11.

9th hf. Dr. POLL. — German Grammar and practice in writing German (third course). Recitations (1 hour) and conferences.

2 Gr., 4 Se., 1 Ju., 2 So., 2 Sp. Total 11.

2a. Associate Professor BARTLETT and Dr. BIERWIRTH. — Introduction to German Literature of the Eighteenth Century. Lessing (Emilia Galotti); Schiller (Die Jungfrau von Orleans, Maria Stuart, Das Lied von der Glocke); Goethe (Die Italienische Reise). German Ballads and Lyrics. Translation, reading at sight, and composition. Recitations (3 hours).

1 Se., 2 Ju., 10 So., 22 Fr., 3 Sp., 1 Sc. Total 39.

3. Dr. POLL, assisted by Mr. W. H. Reed. — The German Drama of the Classic Period. Lessing (Minna von Barnhelm, Emilia Galotti, Nathan der Weise); Schiller (Maria Stuart, Die Jungfrau von Orleans, Wallensteins Tod); Goethe (Egmont, Faust). Lectures in German (1 hour); recitations (2 hours); conferences.

5 Se., 20 Ju., 33 So., 11 Fr., 6 Sp., 1 Sc. Total 76.

4. Asst. Professor SCHILLING. — Goethe and his Time. Lessing (Emilia Galotti); Schiller (Wallenstein); Goethe (Götz von Berlichingen, Egmont, Iphigenie, Dichtung und Wahrheit, Gedichte, Faust). Lectures in German (1 hour); recitations (2 hours); optional conferences; 6 reports.

1 Se., 16 Ju., 12 So., 9 Fr., 2 Sp. Total 40.

GERMAN LITERATURE.

For Undergraduates and Graduates: —

25th hf. Professor FRANCKE. — Introduction to the History of German Literature. Lectures in English, and collateral reading of representative works in English translations. Lectures (1 hour); required reading.

1 Gr., 4 Se., 8 Ju., 6 So., 2 Sp., 1 Sc. Total 22.

5. Professor FRANCKE and Mr. RANSMEIER. — History of German Literature to the Nineteenth Century; with special study of the Classic Periods of the Twelfth and Eighteenth Centuries. Lectures (3 hours); required reading; thesis.

4 Gr., 6 Se., 15 Ju., 12 So., 4 Fr., 2 Sp. Total 43.

26th hf. Mr. NICHOLS. — German Literature in the First Half of the Nineteenth Century. Kleist; Uhland; Heine. Lectures (1 hour), with collateral reading; recitations (2 hours).

2 Gr., 7 Se., 11 Ju., 7 So., 1 Fr., 1 Sc., 1 Law. Total 30.

26th hf. Mr. NICHOLS. — German Literature in the Nineteenth Century. The Development of the Novel and the Drama. Lectures (1 hour), with collateral reading; recitations (2 hours).

2 Gr., 4 Se., 5 Ju., 6 So., 1 Fr., 1 Sc. Total 19.

8. Asst. Professor SCHILLING. — German Literature in the Twelfth and Thirteenth Centuries. Nibelungenlied; Kudrun; Hartmann (Der arme Heinrich); Wolfram (Parzival); Walther von der Vogelweide. Translation into modern German. Lectures (1 hour) and collateral reading; recitations (2 hours).

4 Gr., 2 Se., 2 Ju., 1 Sp. Total 9.

10th hf. Dr. POLL. — German Literature from the Reformation to the Classic Period of the Eighteenth Century. Lectures (1 hour), with collateral reading; 4 reports.

2 Gr., 2 Se., 1 So. Total 5.

- 11¹ *hf.* Professor FRANCKE. — The German Romantic Movement, with special reference to its social and political aspects. Novalis; the brothers Schlegel. Lectures (2 hours); required study of special topics.

11 Gr., 2 Se., 1 Law. Total 14.

- 11² *hf.* Professor FRANCKE. — The German Romantic Movement, with special reference to its social and political aspects. Tieck; the Wunderhorn; Fichte's *Reden an die deutsche Nation*; the Literature of the Wars of Liberation and of the Restoration. Lectures (2 hours); required study of special topics.

12 Gr., 2 Se. Total 14.

SCANDINAVIAN LITERATURE.

Primarily for Graduates: —

2. Dr. SCHOFIELD. — Icelandic (Old Norse). Selections from the Sagas and the Elder Edda. Lectures and recitations (3 hours); collateral reading.

13 Gr., 1 Ju. Total 14.

GERMANIC PHILOLOGY.

Primarily for Graduates: —

- ‡ 12¹ *hf.* Professor VON JAGEMANN. Gothic. Introduction to the study of Germanic Philology. General introduction and Phonology. Lectures (3 hours).

20 Gr., 1 Se., 1 R., 1 Instr. Total 23.

- ‡ 12² *hf.* Professor VON JAGEMANN. — Introduction to the study of Germanic Philology, continued. Morphology and Etymology. Lectures (3 hours).

8 Gr., 3 R. Total 11.

- 16¹ *hf.* Professor KITTREDGE. — Germanic Mythology. Lectures (3 hours).

6 Gr. Total 6.

- 18² *hf.* Asst. Professor SCHILLING. — Germanic Antiquities. Lectures (3 hours); thesis.

1 Instr., 5 Gr. Total 6.

SEMINARY COURSES IN GERMANIC LANGUAGES AND LITERATURES.

Primarily for Graduates: —

- ‡ 20a. Professor VON JAGEMANN. — Selected Topics in the History of the German Language. Lectures; reading and discussion of papers. 2 hours.

3 Gr. Total 3.

- ‡ 20c. Professor FRANCKE. — Selected Topics in the German Romantic Movement. Conferences (2 hours).

4 Gr. Total 4.

Romance Languages and Literatures.

FRENCH.

Primarily for Undergraduates: —

- A. Messrs. C. H. C. WRIGHT, LA MESLÉE, and HENNING. — Elementary Course. French prose and composition. Recitations (3 hours); exercises in writing French (2–3 a week). 4 sections.

4 Gr., 4 Se., 1 Ju., 2 So., 46 Fr., 17 Sp., 34 Sc., 1 Di., 1 Law. Total 110.

- 1c. Dr. FORD and Mr. HENNING. — Reading, translation, grammar, and composition. Recitations (3 hours); exercises in writing French (3 a week). 2 sections.

1 Gr., 1 So., 5 Fr., 5 Sp., 39 Sc. Total 51.

- 1b. Messrs. BABBITT and CUSACHS. — French Prose, historical and general. Translation from French into English. Recitations (3 hours); 10 reports on outside reading. 3 sections.
2 Se., 3 Ju., 24 So., 58 Fr., 13 Sp., 13 Sc. Total 113.
- 1a. Associate Professor DE SUMICHRIST, Mr. LA MESLÉE, and Mr. CUSACHS. — Reading, translation, grammar, and composition. Recitations (3 hours); daily exercises in writing French. 3 sections.
1 Gr., 2 Se., 4 Ju., 18 So., 33 Fr., 5 Sp., 4 Sc. Total 67.
- 2c. Asst. Professor MARCOU, Mr. LA MESLÉE, Dr. FORD, and Mr. HENNING. — French Prose and Poetry. Corneille; Racine; Molière; Beaumarchais; Victor Hugo; Alfred de Musset; Balzac. Recitations and lectures (3 hours); composition (2-3 times a week); one literary essay. 4 sections.
1 Se., 9 Ju., 30 So., 84 Fr., 5 Sp., 2 Sc. Total 131.
- 2a. Messrs. C. H. C. WRIGHT, BABBITT, and CUSACHS. — French Prose and Poetry. La Fontaine; Corneille; Racine; Molière; Victor Hugo; George Sand; Alfred de Musset; Taine. Recitations and occasional lectures (3 hours); composition (weekly exercises); 1 long theme. 4 sections. 2 Gr., 2 Se., 10 Ju., 33 So., 66 Fr., 7 Sp., 4 Sc. Total 124.
- 3hf. Messrs. BRUN, LA MESLÉE, and CUSACHS. — Practice in speaking and writing French (elementary course). Recitations (2 hours). 4 sections.
1 Se., 8 Ju., 28 So., 20 Fr., 8 Sp., 1 Sc. Total 66.
- 4hf. Mr. BRUN. — Practice in speaking and writing French (intermediate course). Recitations (2 hours). 3 sections.
1 Se., 20 Ju., 22 So., 8 Fr., 1 Sp., 4 Sc. Total 56.
- 5hf. Mr. BRUN. — Practice in speaking and writing French (advanced course). Recitations, lectures, and discussions (2 hours).
5 Se., 2 Ju., 2 So., 1 Fr., 1 Sp., 1 Sc., 1 Law. Total 13.

For Undergraduates and Graduates: —

- 6c. Professor GRANDGENT and Mr. BABBITT. — General view of French Literature. Reading, recitations, lectures, composition. 3 hours.
4 Gr., 2 Se., 12 Ju., 22 So., 1 Sp., 1 Sc. Total 42.
6. Associate Professor DE SUMICHRIST and Mr. BRUN. — General view of French Literature. Lectures (3 hours); 6 reports on assigned reading; 2 theses.
9 Se., 9 Ju., 27 So., 3 Fr., 2 Sp. Total 50.
13. Mr. C. H. C. WRIGHT. — The rise and growth of Classicism in French Literature. Lectures (3 hours); assigned reading; 6 reports or theses.
2 Se., 1 Ju. Total 3.
14. Asst. Professor MARCOU. — French Lyric Poetry from Villon and the Fifteenth Century to the present time. Recitations and lectures (3 hours); assigned reading; thesis.
1 Se., 1 Ju. Total 2.
15. Associate Professor DE SUMICHRIST and Mr. BRUN. — French Life in the Seventeenth and Eighteenth Centuries, described and illustrated by the literature and works of art. Lectures (3 hours); assigned reading; 4 reports; 4 theses.
1 Gr., 4 Se., 2 Ju., 3 So., 2 Fr. Total 13.

- 7¹ *hf.* Associate Professor DE SUMICHRIST. — French Literature in the first half of the Nineteenth Century. Victor Hugo and the Romanticist movement. Lectures (2 hours); assigned reading; 4 reports; 2 theses.
2 Gr., 17 Se., 8 Ju., 3 So. Total 30.
- 7² *hf.* Associate Professor DE SUMICHRIST. — French Literature in the second half of the Nineteenth Century. Victor Hugo and the reaction against the Romanticist movement. Lectures (2 hours); assigned reading; 4 reports; 2 theses.
1 Gr., 17 Se., 5 Ju., 3 So. Total 26.
9. Professor F. BÖCHER. — French Literature in the Seventeenth Century. Lectures and recitations (3 hours); assigned reading; fortnightly reports; 3 theses.
6 Se., 5 Ju. Total 11.

Primarily for Graduates: —

- 17 *hf.* Mr. BABBITT. — Literary criticism in France during the Nineteenth Century. Lectures (2 hours); 2 reports on outside reading; thesis.
1 Gr., 4 Se., 1 So. Total 6.
16. Professor F. BÖCHER. — French Tragedy in the Sixteenth and Seventeenth Centuries. Lectures, recitations, and conferences (3 hours); fortnightly reports; thesis.
1 Se., 1 Ju., 2 So. Total 4.
11. Professor SHELDON. — Old French Literature. Rapid reading of texts, with consideration of their literary relations. Recitation (3 or 2 hours); assigned reading.
1 Gr. Total 1.

ITALIAN.

Primarily for Undergraduates: —

1. Dr. FORD. — Elements of Grammar. Selections from modern authors. Elementary exercises in writing Italian (3 a week); recitations (3 hours).
4 Se., 8 Ju., 2 So., 7 Fr. Total 21.

For Undergraduates and Graduates: —

2. Mr. FLETCHER. — Literature of the Fifteenth and Sixteenth Centuries. Torquato Tasso; Ariosto; Machiavelli; Benvenuto Cellini. Reading at sight. Recitations and lectures (3 hours); 4 long reports.
3 Gr., 2 Se., 3 So., 1 Sp. Total 9.

Primarily for Graduates: —

3. Professor GRANDGENT. — Literature of the Thirteenth and Fourteenth Centuries. Selections from Boccaccio, Petrarca, Dante. Early Italian. Monaci's *Crestomazia italiana dei primi secoli*. Lectures (3 hours).
8 Gr., 1 So. Total 9.
4. Professor NORTON. — Literature and the Fine Arts in Italy during the Middle Ages and the Renaissance, with special study of Dante. Lectures (3 hours).
5 Gr., 4 Se., 1 Ju., 2 So. Total 12.

SPANISH.

Primarily for Undergraduates: —

1. Dr. FORD and Mr. CUSACHS. — Grammar, reading, and composition. Modern novels and plays. Recitations (3 hours). 3 sections.
6 Se., 24 Ju., 24 So., 16 Fr., 5 Sp., 7 Sc., 1 Law, 1 Bu. Total 84.

- 10^h *hf.* Asst. Professor SANTAYANA. — Aesthetics. The Philosophy of Art, with a survey of aesthetic theories. Lectures (8 hours); 2 theses.
7 Gr., 18 Se., 12 Ju., 12 So., 5 Sp., 3 Sc. Total 57.
12. Asst. Professor SANTAYANA. — Greek Philosophy, with especial reference to Plato. Lectures (8 hours), and prescribed reading; 4 theses.
8 Gr., 4 Se., 2 Ju., 6 So. Total 20.
- 11^h *hf.* Dr. MILLER. — Descartes, Spinoza, and Leibnitz. Lectures and discussions (8 hours); conferences; brief weekly papers; thesis.
8 Gr., 3 Se., 1 Ju., 1 Sp. Total 18.
- 11^h *hf.* Dr. MILLER. — The History of English Philosophy from Locke to Hume. Lectures and discussions (8 hours); conferences; occasional brief papers; thesis.
7 Gr., 2 Se., 1 Ju., 1 Sp., 1 Di. Total 12.
- 13 *hf.* Professor EVERETT. — The Comparative Study of Religion. Studies in the Comparative History of Religions, particularly the Vedic religion, the Hindu philosophies, Buddhism, Mazdaism, and the Chinese religions. Lectures (2 hours). 4 Gr., 6 Se., 3 Ju., 2 So., 1 Sp., 8 Di. Total 24.
- 8^h *hf.* Professor PALMER. — The Philosophy of Kant. Kant's Critique of Pure Reason. Lectures and recitations (3 hours).
7 Gr., 10 Se., 1 Di. Total 18.

SEMINARY COURSES.

Primarily for Graduates : —

- 32a. Professor MÜNSTERBERG and Dr. MACDOUGALL. — Psychological Laboratory. Experimental investigations by advanced students. Laboratory work (9 to 18 hours); conferences; 2 reports.
13 Gr., 1 Se., 1 Ju., 1 Sp. Total 16.
- 30b. Professor MÜNSTERBERG. — Psychological Seminary. Philosophical Problems of Psychology. Weekly meetings (2 hours); 3 reports.
18 Gr., 1 Se., 1 Di., 1 Me. Total 21.
- 32c. Professor ROYCE. — Metaphysical Seminary. The Problems of Logic. Studies of various fundamental conceptions of Philosophy and of Science. Investigation of special topics. Weekly meetings (2 hours), and about 10 additional meetings.
15 Gr., 1 Di., 1 R. Total 17.
- 32d. Professor PALMER. — Ethical Seminary. The Ethics of Idealism. The Development of German Ethics in Kant, Fichte, and Hegel. Weekly meetings (2 hours); 4 theses.
6 Gr., 2 Di. Total 8.
- 20c. Professor PEABODY. — Sociological Seminary. The Christian doctrine of the Social Order. Lectures (2 hours); 2 theses. 1 Gr., 4 Di. Total 5.
- 20g. Professor EVERETT. — Seminary in the Philosophy of Religion. Kant and the Ritschlians.
3 Gr., 3 Di. Total 6.

Education.

For Undergraduates and Graduates : —

1. Mr. A. O. NORTON. — The History of Educational Theories and Practices. Lectures (2 hours) and conferences; prescribed reading; 4 theses.
3 Gr., 3 Se., 6 Ju., 3 So., 1 Sp., 4 Sc., 1 Law. Total 21.

Primarily for Graduates:—

- 4 *hf.* Mr. FLETCHER.—The History of the Pastoral (particularly in the Renaissance). Study of special topics. Conferences; fortnightly reports; thesis. 1 Se. Total 1.

Celtic.

Primarily for Graduates:—

- 1¹ *hf.* Dr. F. N. ROBINSON.—Old Irish. Grammar and interpretation of texts. General introduction to Celtic Philology. Lectures, recitations, and discussions (3 hours). 1 Gr. Total 1.
- 3 *hf.* Dr. F. N. ROBINSON.—Old and Middle Welsh. Grammar and interpretation of texts. The Mabinogion and other selections from the Red Book of Hergest. Early Welsh Literature. Lectures and recitations (1 or 2 hours). 1 Gr., 1 Law. Total 2.

Slavic Languages.

For Undergraduates and Graduates:—

- 1a. Mr. WIENER.—Russian. Grammar, reading, and composition. Recitations (3 hours). 1 Gr., 1 Se. Total 2.
- 1b. Mr. WIENER.—Russian. Literature of the Nineteenth Century. Pushkin; Gogol; Turgenev; Tolstoy. Composition. Recitations (3 hours). 1 Gr. Total 1.

Primarily for Graduates:—

- 3¹ *hf.* Mr. WIENER.—Old Church Slavic. Leskien's Handbuch der Altbulgarischen Sprache. Lectures and recitations (3 hours). 1 Gr. Total 1.
- 3² *hf.* Mr. WIENER.—General Survey of Slavic Philology. Reading of Slavic texts. Lectures and recitations (3 hours). 1 Gr. Total 1.

History and Government.

HISTORY.

Primarily for Undergraduates:—

1. Asst. Professor COOLIDGE, assisted by Messrs. NEWHALL, MERRIMAN, and STOBBS, and by other instructors in the Department. Mediaeval and Modern European History (introductory course). Lectures (3 hours) and conferences; prescribed reading. 2 Ju., 44 So., 357 Fr., 46 Sp., 7 Sc. Total 456.

For Undergraduates and Graduates:—

2. Dr. BOTSFORD.—Political History of Greece to the Roman Conquest. Lectures (3 hours); assigned reading; 2 reports; thesis. 6 Gr., 24 Se., 17 Ju., 25 So., 5 Fr., 5 Sp., 3 Sc. Total 85.
6. Asst. Professor PLATNER.—The Church of the first six Centuries. Lectures (2 hours); assigned reading; thesis. 3 Gr., 6 Di. Total 9.
- 7a² *hf.* Professor HASKINS (University of Wisconsin).—The Early Reformation Period (1300–1500), with especial reference to the transition from mediaeval to modern institutions. Lectures (3 hours) and collateral reading; thesis. 5 Gr., 2 Se., 1 Ju., 1 Fr., 1 Sp., 2 Di. Total 12.

21. Asst. Professor PLATNER. — History of the Church since the Reformation. Lectures (2 hours) and assigned reading. 1 Gr., 2 Se., 2 Di. Total 5.

8a^h hf. Professor HASKINS (University of Wisconsin). — History of France to the Accession of the House of Valois. Lectures (3 hours) and collateral reading; thesis. 1 Gr., 3 Se., 6 Ju., 1 So. Total 11.

9. Dr. LAPSLEY. — Constitutional History of England to the Sixteenth Century. 3 hours. 2 Gr., 17 Se., 15 Ju., 7 So., 3 Sp. Total 44.

27^h hf. Professor COLBY (McGill University). — Studies in the history of Democratic Movements and Institutions during the Middle Ages. Lectures and discussions (3 hours); assigned reading. 5 Gr., 2 Se., 1 Ju., 1 Fr. Total 9.

28^h hf. Professor COLBY (McGill University). — The History of Continental Europe from the beginning of the Thirty Years' War to the Peace of Utrecht. Lectures (3 hours) and assigned reading. 4 Gr., 18 Se., 23 Ju., 28 So., 1 Fr., 5 Sp., 1 Sc. Total 80.

12. Professor MACVANE, assisted by Mr. HOGUER. — European History since the middle of the Eighteenth Century. Lectures (3 hours) and conferences; 2 theses. 5 Gr., 35 Se., 59 Ju., 76 So., 7 Fr., 12 Sp., 1 Sc. Total 195.

19. Asst. Professor COOLIDGE. — The Eastern Question. Lectures (3 hours); thesis. 6 Gr., 12 Se., 6 Ju., 1 So., 1 Sp. Total 26.

10. Professor CHANNING, assisted by Mr. FISH. — American History to 1783. Lectures (3 hours) and conferences; weekly papers; 2 theses. 3 Gr., 23 Se., 38 Ju., 101 So., 7 Fr., 17 Sp., 4 Sc., 1 Di. Total 194.

13. Professor HART, assisted by Messrs. DORMAN and PARKE. — Constitutional and Political History of the United States (1783-1865). Lectures (3 hours); weekly papers; 3-4 reports. 5 Gr., 39 Se., 109 Ju., 45 So., 2 Fr., 18 Sp., 7 Sc., 1 Law. Total 226.

14. Professor HART. — History of American Diplomacy; treaties; application of International Law; foreign policy. Lectures (3 hours); 2 theses. 6 Gr., 6 Se., 3 Ju., 3 Sp. Total 18.

Primarily for Graduates: —

†18. Dr. BOTSFORD. — Constitutional History of the Roman Republic to the Social War. Lectures and discussions (2 or 3 hours); conferences; thesis. 5 Gr., 2 Se., 1 So., 1 R. Total 9.

26a. Mr. EDWARD H. HALL. — The Development of Christian Doctrine during the first three Centuries. Lectures (2 hours); thesis. 2 Di. Total 2.

23. Professor CHANNING. — Selected Topics in the historical development of American Institutions. Lectures (3 hours); reports; thesis. 10 Gr., 3 Se. Total 18.

25^h hf. Professor HASKINS (University of Wisconsin). — The Elements of Latin Palaeography, with reference to the use of historical sources. Lectures and practical exercises (2½ hours); collateral reading. 1 Gr., 1 Se. Total 2.

SEMINARY COURSES IN HISTORY AND GOVERNMENT.

Primarily for Graduates:—

- 190c. Professor MACVANE. — Recent Constitutional History. Conferences; thesis. 4 Gr., 2 Se., 1 Ju., 1 Law. Total 8.
- 20e. Professors CHANNING and HART. — American History and Institutions. Weekly conferences; thesis. 13 Gr. Total 13.
- 20f. Professor CHANNING. — English Institutions in the Tudor and Stuart Periods. Conferences (fortnightly); thesis. 2 Gr. Total 2.
- 20g. Professor STROBEL. — International Law. Reports and conferences. 3 Gr. Total 3.

GOVERNMENT.

Primarily for Undergraduates:—

1. Professor MACVANE, assisted by Messrs. GOODWIN, FULLERTON, WARREN, and DONHAM. Lectures (2 hours); recitations and conferences (1 hour) in 12 sections. 2 Ju., 141 So., 226 Fr., 42 Sp., 17 Sc. Total 428.
- 6 hf. Oral Discussion of Questions in History, Government, and Economics. 4 briefs and 4 debates, as principal disputant, by each student; weekly debates extempore (2 hours). 2 Gr., 18 Se., 1 Ju., 1 Sp., 2 Law. Total 24.

For Undergraduates and Graduates:—

4. Professor STROBEL, assisted by Mr. BIGELOW. — Elements of International Law. Lectures and discussions (3 hours); 4 theses. 12 Gr., 53 Se., 22 Ju., 4 So., 4 Sp., 2 Sc., 3 Law. Total 100.
- 7¹ hf. Professor MACVANE, assisted by Mr. GEORGE. — Leading Principles of Constitutional Law. Selected cases (American and English). Lectures and conferences (3 hours). 3 Gr., 10 Se., 9 Ju., 3 So., 2 Sp., 4 Sc., 1 Law. Total 32.

Primarily for Graduates:—

- 13¹ hf. Professor BEALE. — The Conflict of Laws. Recitations (2 hours); weekly reports; thesis. 1 Gr., 2 Se., 1 Ju. Total 4.
14. Professor J. B. THAYER. — Constitutional Law in the United States. Lectures (3 hours). 1 Gr., 1 Se., 1 Law. Total 3.
15. Professor STROBEL. — International Law as administered by the Courts. Discussion of cases (2 hours). 3 Gr., 4 Se., 1 Ju., 1 So., 1 Law. Total 10.
- 9³ hf. Professor HART. — Federal Government: history and administration, with special reference to existing federations. Lectures (3 hours); thesis. 5 Gr., 1 Se. Total 6.

Economics.

Primarily for Undergraduates:—

1. Asst. Professor EDWARD CUMMINGS, Dr. JOHN CUMMINGS, Dr. CALLENDER, Dr. SPRAGUE, Messrs. ANDREW and WARREN. — Outlines of Economics. Lectures and recitations (3 hours); prescribed reading. Recitations in 12 sections. 1 Gr., 15 Se., 85 Ju., 277 So., 23 Fr., 34 Sp., 25 Sc., 1 Law. Total 461.

For Undergraduates and Graduates:—

2. Professor TAUSSIG.—Economic Theory in the Nineteenth Century. Lectures and discussions (3 hours); required reading.
8 Gr., 17 Se., 27 Ju., 3 So., 1 Fr., 8 Sp., 1 Di. Total 65.
3. Asst. Professor EDWARD CUMMINGS.—The Principles of Sociology. Development of the Modern State, and of its Social Functions. Lectures (3 hours); excursions; 6 reports or theses.
7 Gr., 35 Se., 37 Ju., 10 So., 11 Sp., 2 Sc., 3 Law. Total 105.
4. Asst. Professor EDWARD CUMMINGS.—Socialism and Communism. History and literature. Lectures (3 hours); 6 reports or theses.
2 Gr., 11 Se., 4 Ju., 1 So., 2 Sp., 2 Sc. Total 22.
1. Professor ASHLEY.—The Modern Economic History of Europe. Lectures (2 or 3 hours).
15 Gr., 21 Se., 26 Ju., 6 So., 6 Sp., 1 Sc., 1 Me. Total 76.
6. Dr. CALLENDER.—The Economic History of the United States. Lectures (2 hours); discussions of assigned topics (1 hour); 2 theses.
11 Gr., 64 Se., 58 Ju., 19 So., 8 Sp., 2 Sc., 1 Di. Total 163.
4. Dr. JOHN CUMMINGS.—Statistics. Theory, method, and practice. Studies in Demography. Lectures (3 hours) and conferences; 2 reports; theses.
1 Gr., 2 Se., 4 Ju., 2 So., 1 Sc. Total 10.
5. Mr. MEYER.—Railways and other Public Works, under Public and Corporate Management. Lectures (2 or 3 hours); prescribed reading.
3 Gr., 27 Se., 19 Ju., 6 So., 4 Sp., 1 Sc., 2 Law. Total 62.
- 16¹ hf. Professor DUNBAR.—Financial History of the United States from 1789 to the Civil War. Lectures (2 hours); prescribed reading; thesis.
7 Gr., 7 Se., 5 Ju., 2 Sp., 1 Law. Total 22.
- 13² hf. Mr. E. H. WARREN.—Financial History of the United States from 1860 to the present time. Lectures; prescribed reading; thesis.
5 Gr., 9 Se., 6 Ju., 1 Sp., 2 Sc., 2 Law. Total 25.
- 7a¹ hf. Professor DUNBAR.—Financial Administration and Public Debts. Lectures (2 or 3 hours); prescribed reading; report.
7 Gr., 14 Se., 8 Ju., 2 Sp., 1 Sc., 4 Law. Total 36.
- 7b² hf. Professor TAUSSIG.—The Theory and Methods of Taxation, with special reference to local taxation in the United States. Lectures and discussions (3 hours); required reading.
6 Gr., 25 Se., 27 Ju., 4 So., 1 Fr., 6 Sp., 2 Sc., 1 Law., 1 Me. Total 73.

Primarily for Graduates:—

15. Professor ASHLEY.—The History and Literature of Economics to the close of the Eighteenth Century. Lectures (2 or 3 hours).
6 Gr., 2 Se., 2 Ju., 1 So. Total 11.
- 120a hf. Professor ASHLEY.—The Economic Life and Thought of the Ancient World. Lectures (1 hour) and conferences (monthly). 2 Gr. Total 2.
- 20b hf. Professor DUNBAR.—Commercial Crises. Thesis. 1 Gr. Total 1.

120c¹ *hf.* Professor TAUSSIG.—The Tariff History of the United States. Lectures (1 hour); required reading; thesis.

4 Gr., 1 Se., 1 Ju., 1 Sp., 1 L. Total 8.

20e². Dr. JOHN CUMMINGS.—Ethnology in its applications to Economic and Social Problems.

1 Gr., 3 Se., 1 So. Total 5.

THE SEMINARY IN ECONOMICS.

The results of investigations pursued in connection with Courses 20a, 20b, 20c, and 20e were presented and discussed. 1 hour.

7 Gr., 1 Se., 1 Ju., 1 Sp., 1 Law., 1 R. Total 12.

Philosophy.

Primarily for Undergraduates:—

1a. Professors MÜNSTERBERG and ROYCE, assisted by Dr. RAND.—General Introduction to Philosophy. Psychology. Logic. Lectures (3 hours) and conferences. 5 Se., 91 Ju., 110 So., 29 Fr., 18 Sp., 31 Sc. Total 284.

1b. Professor PALMER, assisted by Dr. RAND.—Outlines of the History of Philosophy, Ancient and Modern. Lectures (3 hours) and conferences.

3 Gr., 3 Se., 53 Ju., 24 So., 3 Fr., 10 Sp., 5 Sc., 1 Di. Total 102.

For Undergraduates and Graduates:—

2¹ *hf.* Dr. MACDOUGALL.—Advanced Psychology. Lectures (3 hours); prescribed reading; thesis.

7 Gr., 14 Se., 2 Ju., 1 So., 2 Sp., 2 Sc., 1 Law. Total 29.

14² *hf.* Dr. MACDOUGALL.—Experimental Psychology (elementary laboratory course). The psychology of sensation, and of the elementary mental processes. Laboratory work (5 hours); reports (2 a week); thesis.

6 Gr., 5 Se., 4 Ju., 1 Sp., 1 Sc. Total 17.

3. Dr. MILLER.—The Philosophy of Nature, with especial reference to Man's place in Nature. The Foundations of Science; the relation of Mind and Body; Evolution. Lectures and discussions (3 hours); conferences; brief weekly papers; thesis. 3 Gr., 8 Se., 3 Ju., 1 So., 3 Sp. Total 18.

4a. Asst. Professor SANTAYANA.—Ethics. The Origin and Forms of Moral Life. Professor ROYCE.—Contemporary Ethical Controversies. Lectures (3 hours) and required reading; 2 theses.

8 Gr., 20 Se., 5 Ju., 1 So., 2 Sp. Total 36.

5. Professor PEABODY and Dr. RAND.—The Ethics of the Social Questions. The problems of Poor-Relief, the Family, Temperance, and various phases of the Labor Question, in the light of ethical theory. Lectures and conferences (3 hours); prescribed reading; 2 theses.

10 Gr., 47 Se., 22 Ju., 7 So., 8 Sp., 2 Sc., 11 Di. Total 107.

6 *hf.* Professor EVERETT.—The Psychological Elements of Religious Faith. Lectures (1 hour). 7 Gr., 9 Se., 4 Ju., 3 So., 1 Sp., 12 Di. Total 36.

7. Professor EVERETT.—Theism and the Special Contents of Christian Faith. Lectures (3 hours); thesis. 6 Di. Total 6.

9. Professor ROYCE.—Metaphysics. The fundamental problems of Theoretical Philosophy. Realism and Idealism; Freedom, Teleology, and Theism. Lectures and discussions (3 hours); 3 theses.

11 Gr., 14 Se., 1 Ju., 1 So., 2 Sp., 3 Di. Total 32.

- 10^a *hf.* Asst. Professor SANTAYANA. — Aesthetics. The Philosophy of Art, with a survey of aesthetic theories. Lectures (3 hours); 2 theses.
7 Gr., 18 Se., 12 Ju., 12 So., 5 Sp., 3 Sc. Total 57.
12. Asst. Professor SANTAYANA. — Greek Philosophy, with especial reference to Plato. Lectures (3 hours), and prescribed reading; 4 theses.
8 Gr., 4 Se., 2 Ju., 6 So. Total 20.
- 11¹ *hf.* Dr. MILLER. — Descartes, Spinoza, and Leibnitz. Lectures and discussions (3 hours); conferences; brief weekly papers; thesis.
8 Gr., 3 Se., 1 Ju., 1 Sp. Total 13.
- 11² *hf.* Dr. MILLER. — The History of English Philosophy from Locke to Hume. Lectures and discussions (3 hours); conferences; occasional brief papers; thesis.
7 Gr., 2 Se., 1 Ju., 1 Sp., 1 Di. Total 12.
- 13 *hf.* Professor EVERETT. — The Comparative Study of Religion. Studies in the Comparative History of Religions, particularly the Vedic religion, the Hindu philosophies, Buddhism, Mazdaism, and the Chinese religions. Lectures (2 hours). 4 Gr., 6 Se., 3 Ju., 2 So., 1 Sp., 8 Di. Total 24.
- 8¹ *hf.* Professor PALMER. — The Philosophy of Kant. Kant's Critique of Pure Reason. Lectures and recitations (3 hours).
7 Gr., 10 Se., 1 Di. Total 18.

SEMINARY COURSES.

Primarily for Graduates : —

- ‡20a. Professor MÜNSTERBERG and Dr. MACDOUGALL. — Psychological Laboratory. Experimental investigations by advanced students. Laboratory work (9 to 18 hours); conferences; 2 reports.
13 Gr., 1 Se., 1 Ju., 1 Sp. Total 16.
- 20b. Professor MÜNSTERBERG. — Psychological Seminary. Philosophical Problems of Psychology. Weekly meetings (2 hours); 3 reports.
18 Gr., 1 Se., 1 Di., 1 Me. Total 21.
- ‡20c. Professor ROYCE. — Metaphysical Seminary. The Problems of Logic. Studies of various fundamental conceptions of Philosophy and of Science. Investigation of special topics. Weekly meetings (2 hours), and about 10 additional meetings.
15 Gr., 1 Di., 1 R. Total 17.
- ‡20d. Professor PALMER. — Ethical Seminary. The Ethics of Idealism. The Development of German Ethics in Kant, Fichte, and Hegel. Weekly meetings (2 hours); 4 theses.
6 Gr., 2 Di. Total 8.
- 20e. Professor PEABODY. — Sociological Seminary. The Christian doctrine of the Social Order. Lectures (2 hours); 2 theses. 1 Gr., 4 Di. Total 5.
- 20g. Professor EVERETT. — Seminary in the Philosophy of Religion. Kant and the Ritschlians.
3 Gr., 3 Di. Total 6.

Education.

For Undergraduates and Graduates : —

1. Mr. A. O. NORTON. — The History of Educational Theories and Practices. Lectures (2 hours) and conferences; prescribed reading; 4 theses.
3 Gr., 3 Se., 6 Ju., 3 So., 1 Sp., 4 Sc., 1 Law. Total 21.

- 2¹ *hf.* Asst. Professor HANUS. — Introduction to Educational Theory. Discussion of Educational Principles. Lectures and discussions (2 hours) and required reading; 6 brief reports; 7 theses.

5 Gr., 22 Se., 6 Ju., 4 So., 2 Sp., 5 Sc., 1 Law. Total 45.

Primarily for Graduates: —

- ‡8. Asst. Professor HANUS and Mr. LOCKE. — Organization and Management of Public Schools and Academies. Courses of Study, Supervision, and Teaching. Lectures (2 hours) and conferences. Visits to schools (at least 3 hours), or practice in teaching in schools (2 to 5 hours). Reports on visits (weekly); short essays; 2 theses. 2 sections.

9 Gr., 11 Se., 1 So., 1 Sp., 4 Sc., 1 Law, 1 Di. Total 28.

- ‡4² *hf.* Asst. Professor HANUS. — The School Systems of England, France, and Germany. Lectures (2 hours) and prescribed reading; 3 theses.

2 Gr., 3 Se. Total 5.

- ‡10a² *hf.* Asst. Professor C. P. PARKER. — The Methods and Equipment of a Teacher of the Classics in Secondary Schools. Lectures and discussions (3 hours); required reading of Greek and Latin authors; brief essays, and illustrations of class work.

13 Gr., 1 Se., 1 R. Total 15.

- ‡20a. Asst. Professor HANUS. — Pedagogical Seminary. Contemporary Problems in Education. Lectures, essays, reports, and discussions (2 hours).

4 Gr., 1 Sc. Total 5.

The Fine Arts.

Primarily for Undergraduates: —

1. Professor CHARLES H. MOORE, assisted by Mr. MOWER. — Principles of Delineation, Color, and Chiaroscuro, with some consideration of historic forms of art, and the conditions which have influenced them. Perspective. Lectures (1 hour) and collateral reading. Practice in drawing and in the use of water-colors (6 hours).

2 Se., 6 Ju., 12 So., 14 Fr., 7 Sp., 23 Sc., 2 Bu. Total 66.

2. Professor CHARLES H. MOORE. — Principles of Design in Painting, Sculpture, and Architecture, as exemplified in the arts of past ages. Lectures (2 hours) and collateral reading. Practice in drawing (3 hours).

3 Se., 1 Ju., 5 So., 3 Sp., 2 Sc. Total 14.

For Undergraduates and Graduates: —

3. Mr. EDWARD ROBINSON, assisted by Mr. VON MACH. — The History of Greek Art, with an introduction on the Arts of Egypt, Assyria, and Phoenicia, in their relation to Greek Art. Lectures (3 hours) and conferences.

2 Gr., 29 Se., 57 Ju., 59 So., 3 Fr., 10 Sp., 18 Sc., 1 Law. Total 179.

4. Professor CHARLES H. MOORE. — The Fine Arts of the Middle Ages and the Renaissance. Lectures (3 hours) and collateral reading.

1 Gr., 64 Se., 65 Ju., 24 So., 3 Fr., 12 Sp., 13 Sc., 1 Me. Total 183.

Primarily for Graduates: —

- ‡20. Mr. EDWARD ROBINSON. — Classical Archaeology (advanced course). Study of Greek Vases. Lectures, recitations, and conferences (2 hours); thesis.

4 Gr., 1 So., 1 Instr., 1 R. Total 7.

Architecture.

The courses in Architecture are intended primarily for students in the Lawrence Scientific School, and only Courses 1a, 1b, and 1c may be counted towards the degree of A.B.

- 1a. Professor H. L. WARREN. — Technical and Historical Development of the Ancient Styles, with especial reference to Classic Architecture. Lectures (1-3 hours) and collateral reading; practice in drawing (6 or 7 hours); 1 report. 5 Ju., 13 Sc. Total 18.
- 1c. Professor H. L. WARREN. — Technical and Historical Development of Renaissance and Modern Architecture. Lectures (2-3 hours) and collateral reading; practice in drawing (2 hours till April); 4 reports. 3 Gr., 1 Se., 2 Ju., 2 So., 13 Sc. Total 21.
- 2a. Professor H. L. WARREN and Mr. NEWTON, assisted by Mr. SWAN. — Elementary Architectural Drawing. The Orders. 12 to 18 hours. 14 Sc. Total 14.
- 3a. Professor H. L. WARREN and Mr. NEWTON, assisted by Mr. SWAN. — Freehand Drawing from Architectural Subjects. 6 hours. 2 Gr., 1 Se., 9 Sc. Total 12.
- 3b. Professor H. L. WARREN and Mr. NEWTON, assisted by Mr. SWAN. — Freehand Drawing from Architectural Subjects (second course). 6 hours. 2 sections. 1 Gr., 9 Sc. Total 10.
- 3c¹ hf. Professor H. L. WARREN and Mr. NEWTON, assisted by Mr. SWAN. — Freehand Drawing from Architectural Subjects (third course). 6 hours. 1 Gr., 6 Sc. Total 7.
- 4a. Professor H. L. WARREN and Mr. NEWTON, assisted by Mr. SWAN. — Elementary Architectural Design. Practice and criticism. One measured drawing; 2 designs from dictation; 4 problems in design (original work); criticisms. 12 hours. 6 Sc., 1 Bu. Total 7.
- 4b. Professor H. L. WARREN and Mr. NEWTON. — Architectural Design (second course). One measured drawing; 2 designs from dictation; 4 problems in design (original work); criticisms. 15 hours. 10 Sc. Total 10.
- 4c. Professor H. L. WARREN and Mr. NEWTON. — Architectural Design (advanced course). Five problems in design and thesis design; criticisms. 18 hours. 1 Gr., 5 Sc. Total 6.
- 5¹ hf. Mr. NEWTON. — Building Construction: Carpentry. Lectures ($\frac{1}{2}$ hour) and drawing ($1\frac{1}{2}$ hours). 11 Sc. Total 11.
- 6 hf. Mr. GARbutt. — Modelling. Practice in modelling architectural ornament in clay, from plaster casts, photographs, and original designs. 3 hours. 4 Sc. Total 4.
- 7¹ hf. Dr. ROSS. — Theory of Design. Balance, harmony, rhythm. Lectures (2 hours); drawing and coloring (2 hours); weekly reports; thesis. 1 Gr., 7 Sc. Total 8.

Music.*For Undergraduates and Graduates:—*

1. Mr. SPALDING.—Harmony. Lectures (3 hours); practice in composition (songs and pieces for pianoforte).
1 Gr., 5 Se., 4 Ju., 8 So., 7 Fr., 1 Sc. Total 26.
2. Mr. SPALDING.—Counterpoint. Lectures (3 hours); practice in composition (pieces for voice and for pianoforte, and one for orchestra).
1 Gr., 2 Se., 2 Ju., 3 So., 1 Fr. Total 9.
3. Professor PAINE.—History of Music. Recitations (3 hours) and collateral reading; fortnightly reports; 2 theses.
1 Gr., 4 Se., 2 Ju., 2 So., 1 Sc. Total 10.

Primarily for Graduates:—

15. Professor PAINE.—Canon and Fugue. Free Thematic Music. Recitations (2 hours); practice in composition. 1 Se., 2 Ju. Total 3.
16. Professor PAINE.—Advanced Canon and Fugue and Free Composition. Original compositions. 2 hours. 2 Se. Total 2.

Mathematics.*Primarily for Undergraduates:—*

- F. Professor BYERLY, Dr. BOUTON, and Messrs. ASHTON and WHITEMORE.—Trigonometry and Plane Analytic Geometry. Lectures (3 hours) and assigned problems. 2 sections.
2 Se., 3 Ju., 11 So., 43 Fr., 1 Sc. Total 60.
- A¹ hf. Mr. ASHTON.—Logarithms. Plane and Spherical Trigonometry. Lectures and recitations (3 hours); assigned problems.
2 Ju., 10 So., 24 Fr., 5 Sp. Total 41.
- B² hf. Mr. ASHTON.—Plane Analytic Geometry (elementary course). Lectures (3 hours) and assigned problems.
1 Gr., 1 Ju., 4 So., 16 Fr., 3 Sc. Total 25.
- C. Asst. Professor M. BÔCHER.—Plane and Solid Analytic Geometry (extended course). Lectures (3 hours) and assigned problems.
1 Ju., 1 So., 16 Fr., 1 Sp. Total 19.
- D¹ hf. Mr. J. L. COOLIDGE.—Algebra. Lectures (3 hours) and assigned problems.
3 Se., 1 Ju., 11 So., 21 Fr., 2 Sp. Total 38.
- E² hf. Dr. BOUTON, Dr. CAMPBELL, and Mr. J. L. COOLIDGE.—Solid Geometry. Recitations (3 hours) and assigned problems. 2 sections.
8 So., 24 Fr., 7 Sp., 14 Sc. Total 53.
2. Professor BYERLY, Asst. Professor M. BÔCHER, Mr. ASHTON, and Dr. BOUTON.—Differential and Integral Calculus (first course). Lectures and conferences (3 hours); assigned problems.
1 Gr., 5 Se., 8 Ju., 24 So., 8 Fr., 2 Sp., 1 Sc. Total 49.
4. Dr. BOUTON.—The Elements of Mechanics. Lectures (3 hours) and assigned problems.
1 Gr., 5 Se., 2 Ju., 1 So. Total 9.

For Undergraduates and Graduates:—

- 1¹ *hf.* Dr. BOUTON. — Theory of Equations. Invariants. Lectures (3 hours) and assigned problems. 2 Gr., 3 Se., 1 Ju., 1 So. Total 7.
3. Mr. WHITTEMORE. — Modern Methods in Geometry. Determinants. Lectures (3 hours) and assigned problems. 1 Gr., 4 Se., 4 So., 1 Sc. Total 10.
5. Mr. WHITTEMORE. — Differential and Integral Calculus (second course). Lectures (3 hours) and assigned problems. 1 Gr., 4 Se., 3 Ju., 1 Sp., 1 So. Total 10.
6. Professor J. M. PEIRCE. — Quaternions, with applications to Geometry and Mechanics (first course). Lectures (3 hours). 6 Gr., 4 Se., 3 Ju., 1 Sc. Total 14.
- 8¹ *hf.* Professor BYERLY. — Dynamics of a Rigid Body. Lectures (3 hours) and assigned problems. 4 Gr., 3 Se., 1 Ju. Total 8.
- 12¹ *hf.* Asst. Professor M. BÔCHER. — Infinite Series and Products. Lectures (3 hours) and assigned problems. 4 Gr., 1 Instr. Total 5.
- 14a³ *hf.* Asst. Professor M. BÔCHER. — Algebra. The Properties of Polynomials; Invariants. Lectures (3 hours) and assigned problems. 6 Gr., 1 Se. Total 7.

Primarily for Graduates:—

- ‡7a. Professor J. M. PEIRCE. — Theory of Curves and Surfaces (first course). Algebraic Plane Curves, especially those of the Third Degree in point or line coördinates. Lectures (3 hours). 9 Gr., 1 R. Total 10.
- ‡9. Professor J. M. PEIRCE. — Quaternions; with applications to Geometry and Mechanics (second course). Lectures (3 hours). 2 Gr. Total 2.
- ‡10. Professors BYERLY and B. O. PEIRCE, and Asst. Professor M. BÔCHER. — Trigonometric Series. Introduction to Spherical Harmonics. Potential Function. Lectures (2 or 3 hours) and assigned problems. 5 Gr., 1 Se. Total 6.
- ‡11. Professor B. O. PEIRCE. — Hydrostatics. Hydrokinematics. Force Functions and Velocity-Potential Functions and their uses. Lectures (3 hours) and assigned problems. 3 Gr., 1 Se., 2 R. Total 6.
- ‡13. Dr. BOUTON. — The Theory of Functions (introductory course). Lectures (3 hours) and assigned problems. 3 Gr., 1 Se. Total 4.
- ‡16³ *hf.* Mr. WHITTEMORE. — The Calculus of Variations. Lectures (3 hours) and assigned problems; thesis. 4 Gr. Total 4.
- ‡26¹ *hf.* Professor PIERPONT (Yale University). — Algebraic Numbers. Lectures (3 hours) and assigned problems. 2 Gr., 1 R. Total 3.
- ‡19. Asst. Professor M. BÔCHER. — Functions defined by Linear Differential Equations. Lectures (3 hours) and assigned problems. 6 Gr., 2 R. Total 8.
- ‡25. Professor ASAPH HALL (U. S. Navy). — The Theory of Planetary Motions. Lectures and demonstrations (3 hours); problems in computation. 4 Gr., 1 Se., 1 Sc., 1 R. Total 7.

COURSE IN READING AND RESEARCH.

- ‡20g. Dr. BOUTON. — Lie's Theories of Continuous Groups. Conferences (2 hours). 1 Gr. Total 1.

Astronomy.*Primarily for Undergraduates:—*

1st hf. Asst. Professor WILLSON and Mr. W. M. REED. — Descriptive Astronomy. Lectures (2 hours); observatory work (1 hour).

1 Gr., 11 Se., 12 Ju., 14 So., 2 Fr., 1 Sp., 7 Sc., 1 Law. Total 49.

2nd hf. Asst. Professor WILLSON and Mr. W. M. REED. — Practical Astronomy. Application of Astronomy to Navigation and Exploration. Time, latitude, and longitude, by sextant; azimuth; lunar distances. Lectures (2 hours); practice in use of instruments, and computation.

4 Se., 2 Ju., 9 So., 2 Sc. Total 17.

For Undergraduates and Graduates:—

3. Asst. Professor WILLSON. — Practical Astronomy. Portable and fixed instruments. Time and longitude by transit. Latitude by zenith telescope. Meridian circle. Equatorial instrument. Lectures, use of instruments, and computation. Lectures (1 hour); conferences (2 hours); observatory work (2 hours); 3 reports and 1 special problem.

1 Gr., 1 Se., 1 Sc. Total 3.

Engineering.

The courses in Engineering are intended primarily for students in the Lawrence Scientific School, and only a few of them can ordinarily be counted towards the degree of A.B. The Catalogue shows in detail what courses may be so counted.

1a¹ hf. Messrs. LOVE, ASHTON, FRIZELL, and CAMPBELL. — Algebra. Recitations (3 hours). 5 sections.

1 Se., 1 Ju., 4 So., 4 Fr., 1 Sp., 131 Sc. Total 142.

1b¹ hf. Messrs. LOVE, ASHTON, FRIZELL, and CAMPBELL. — Trigonometry. Recitations and conferences (2 hours). 4 sections.

1 So., 138 Sc. Total 139.

1c. Messrs. LOVE, FRIZELL, and CAMPBELL. — Differential and Integral Calculus. Recitations (3 hours) and conferences. 3 sections.

1 Se., 4 Ju., 4 So., 49 Sc. Total 58.

1d² hf. Messrs. LOVE, ASHTON, and FRIZELL. — Analytic Geometry. Recitations (3 hours) and conferences. 5 sections.

1 Se., 1 Ju., 1 So., 1 Fr., 125 Sc. Total 129.

1f¹ hf. Mr. LOVE. — Integral Calculus and Differential Equations. Recitations (3 hours).

2 Ju., 9 Sc. Total 11.

3a. Messrs. MOSES, KENNEDY, ROBINSON, and MOYER. — Mechanical Drawing. Use of Instruments. Projections and Machine Drawing. Lectures (1 hour); draughting (6 hours). 2 sections.

2 Gr., 4 Se., 11 Ju., 9 So., 5 Fr., 114 Sc. Total 145.

3b¹ hf. Messrs. MOSES and KENNEDY. — Descriptive Geometry. Elementary Shades, Shadows, and Perspective. Lectures and recitations (2 hours); draughting (6 to 9 hours). 2 sections.

2 Gr., 2 Ju., 3 So., 54 Sc. Total 61.

- 3a² hf.** Mr. MOSES. — Mechanism. Study of Gearing and Mechanical Movements. Lectures and recitations (2 hours); draughting (4 hours); assigned problems. 2 sections. 1 Se., 2 Ju., 3 So., 44 Sc. Total 50.
- 3c² hf.** Mr. MOSES. — Stereotomy, Shades, Shadows, and Perspective. Lectures (1 hour); draughting (6 hours). 2 sections.
1 Ju., 1 So., 22 Sc. Total 24.
- 4a².** Messrs. TURNER and RYAN. — Surveying. Use of instruments, plane and topographical surveying, topographical drawing, and levelling. Lectures (9 weeks, 2 hours); drawing (9 weeks, 4 hours); field practice (6 weeks in term time, 6 hours; 7 weeks in summer, 45 hours).
1 Gr., 2 Se., 4 Ju., 4 So., 2 Fr., 36 Sc., 2 Bu. Total 51.
- 4c² hf.** Messrs. TURNER and RYAN. — Geodetic Surveying. Field work of triangulation. The use of astronomical instruments in surveying and navigation. 3 weeks in summer, 45 hours. 1 Ju., 2 So., 16 Sc. Total 19.
- 4d² hf.** Messrs. TURNER and RYAN. — Railroad Engineering. Survey, location, and construction of railroads. Lectures (in term time, 2 hours); problems; field practice (4 weeks in summer, 45 hours).
2 Ju., 1 So., 27 Sc. Total 30.
- 10a¹ hf.** Asst. Professor BURKE. — Chipping, Filing, and Fitting. Use of hand tools. Fitting by hand. Study of the metals in practical working. Lectures and demonstrations (1½ hours); laboratory work (4 hours); 4 excursions.
1 Sp., 34 Sc., 1 Bu. Total 36.
- 10b² hf.** Asst. Professor BURKE. — Blacksmithing. Use of tools. Forging, welding, tool-dressing and tempering. Lectures and demonstrations (1½ hours); laboratory work (4 hours); 4 excursions.
1 So., 1 Sp., 35 Sc. Total 37.
- 10c¹ hf.** Asst. Professor BURKE. — Pattern-making and Foundry Practice. Use of wood-working tools. Casting in iron and alloys. Lectures and demonstrations (1½ hours); laboratory work (4 hours); 3 reports; 5 excursions.
1 Se., 1 So., 14 Sc. Total 16.
- 10e² hf.** Asst. Professor BURKE. — Machine Shop Practice. Use of machine tools. Construction of parts of machinery; finishing and assembling parts. Lectures and demonstrations (1½ hours); laboratory work (4 hours); 5 excursions.
1 So., 15 Sc. Total 16.

For Undergraduates and Graduates : —

- 4c² hf.** Mr. McCLINTOCK. — Construction and Maintenance of Common Roads. Lectures and discussions (3 hours); 2 excursions.
2 Gr., 1 Ju., 1 So., 30 Sc. Total 34.
- 5a.** Professor HOLLIS. — Analytic and Applied Mechanics. Problems in Statics and Kinetics. Lectures (3 hours) and conferences; assigned problems.
1 Gr., 2 Se., 4 Ju., 1 Sp., 55 Sc. Total 63.
- 5b¹ hf.** Asst. Professor JOHNSON. — Elementary Statics. Graphical and Analytical Methods. Lectures (1 hour); drawing (5 hours). 6 Sc. Total 6.
- 5c¹ hf.** Professor HOLLIS. — Resistance of Materials. Lectures (3 hours) and conferences; assigned problems. 32 Sc. Total 32.

- 5d² hf. Asst. Professor JOHNSON. — Elementary Structural Design. Lectures (1 hour) and conferences (5 hours). 5 Sc. Total 5.
- 6a² hf. Messrs. TURNER and RYAN. — Hydraulics and Hydraulic Motors. Flow of water in pipes. Water wheels, turbines, and pressure engines. Lectures (8 hours) and recitations; assigned problems. 1 Gr., 2 Se., 2 Ju., 43 Sc. Total 48.
- 6c¹ hf. Mr. RICE. — Water Supply and Sanitary Engineering. 3 hours. 7 Sc. Total 7.
- 6d² hf. Mr. TURNER. — Canals, Rivers, and Irrigation. Measurements of the flow of water. Construction of irrigation works. Lectures (3 hours); laboratory work (6 hours, 9 weeks.); field work (6 hours, 6 weeks). 5 Sc. Total 5.
- 7a. Asst. Professor JOHNSON. — Bridges and Buildings. Graphical Statics. Details of iron and steel construction. Lectures (2 hours); drawing (7 hours); 2 excursions. 6 Sc. Total 6.
- 8a² hf. Asst. Professor JOHNSON. — Masonry and Foundations. Lectures (3 hours). 2 Gr., 1 Ju., 27 Sc., 1 Bu. Total 31.
- 11a¹ hf. Mr. MARKS. — Machinery and Boilers. Description of the common types of engines and boilers. Lectures (3 hours) and assigned reading; 3 excursions. 4 Se., 3 Ju., 1 So., 54 Sc. Total 62.
- 11b² hf. Professor HOLLIS. — Valve Gears and Governors. General theory and design. Lectures (3 hours) and assigned problems. 1 Gr., 2 Se., 4 Sc. Total 7.
- 12a¹ hf. Mr. MARKS. — Efficiency and Economics of Engines and Boilers. Lectures and recitations (3 hours); assigned problems. 26 Sc. Total 26.
- 12b² hf. Mr. MARKS. — Elements of Thermodynamics. Lectures and recitations (3 hours); assigned problems. 2 Se., 23 Sc. Total 25.
- 12c² hf. Asst. Professor BURKE. — Heating and Ventilation. Lectures (3 hours) and conferences (7 hours); 2 reports; thesis. 22 Sc. Total 22.
- 13a hf. Mr. MARKS. — Engineering Laboratory. General course in experimental methods. Lectures (2 hours) and laboratory work (3 hours); 26 reports. 3 sections. 1 Se., 35 Sc. Total 36.
- 13b. Mr. MARKS. — Engineering Laboratory. Advanced course in experimental engineering. Lectures (1 hour) and laboratory work (9 hours); 20 reports. 2 sections. 1 Gr., 15 Sc. Total 16.
- 14a. Mr. MOSES. — Machine Design. Designing the parts of machinery. Methods of proportioning the parts for strength and effect. Lectures (1 hour); drawing (6 hours). 1 Se., 30 Sc. Total 31.
- 14b. Professor HOLLIS and Asst. Professor BURKE. — Machine Design. Completed designs of machinery. Lectures (2 hours); drawing (6 hours). 2 Gr., 14 Sc. Total 16.
- 16c¹ hf. Asst. Professor ADAMS and Mr. WHITING. — Direct Current Dynamo-Electric Machinery. Theory, testing, and practice in management. Lectures (3 hours); laboratory work, in 5 sections (4 hours), with weekly reports; assigned problems. 3 Gr., 1 Se., 3 Ju., 34 Sc. Total 41.

- 16c² hf.** Asst. Professor ADAMS and Mr. WHITING. — Alternating Currents and Alternating Current Machinery. Theory and testing. Lectures; laboratory work in 5 sections (4 hours), with weekly reports; assigned problems; 3 excursions. 2 Gr., 2 Se., 3 Ju., 32 Sc. Total 39.
- 16d.** Asst. Professor ADAMS and Mr. WHITING. — Direct and Alternating Current Machinery. A continuation of Courses 16c and 16e, with practice in design and construction. Lectures (2 hours); laboratory work (12 hours), with weekly reports; drawing (2 hours). 1 Gr., 11 Sc. Total 12.
- 17a² hf.** Asst. Professor ADAMS. — The Electrical Transmission and Distribution of Power. Lectures (2 hours); 3 excursions; 6 reports. 2 Gr., 11 Sc. Total 13.
- 18a¹ hf.** Asst. Professor BURKE. — Metallurgy. Manufacture and physical properties of the metals used in engineering construction. Lectures on the practical working of iron and steel. Lectures (3 hours). 1 Gr., 1 Ju., 1 So., 40 Sc. Total 43.
- 21.** Professor HOLLIS. — Engineering Conference on the general theory of Machinery and the commercial and economic questions involved in the selection of types of machinery for given localities and duties. Comparison of different methods of transmitting power. Weekly meetings (2 hours). Lectures, mainly by the students. 35 Sc. Total 35.
- 22² hf.** Asst. Professor WESTENGARD. — Contracts and Specifications. The Principles of Common Law as applied to Contracts. Lectures (1 hour) with practice in drawing up specifications. 2 Gr., 39 Sc. Total 41.

Military and Naval Science.

For Undergraduates and Graduates: —

1. Lieutenant R. C. SMITH (U. S. Navy). — The Operations of War. Organization of Land and Sea Forces; Tactics and Strategy; Military Engineering; Coast Defense; Ordnance and Gunnery; Military and Naval History. Lectures (3 hours) and required reading; 7 reports. 31 Se., 51 Ju., 58 So., 9 Fr., 8 Sp., 29 Sc. Total 186.

Physics.

Primarily for Undergraduates: —

- B hf.** Professor HALL and Mr. FISKE. — Experimental Physics. Lectures (1 hour) and laboratory work (2 hours); weekly reports. 6 sections. 3 Gr., 1 Se., 1 Ju., 29 So., 27 Fr., 12 Sp., 62 Sc. Total 135.
- C.** Asst. Professor SABINE and Mr. McELFRESH. — Experimental Physics. Mechanics, Sound, Light, Magnetism, and Electricity. Lectures (1 hour) and laboratory work (4 hours). 4 sections. 4 Se., 7 Ju., 11 So., 19 Fr., 9 Sp., 28 Sc. Total 78.
1. Professor EDWIN H. HALL and Mr. MCKAY. — General Descriptive Physics. Lectures (2 hours) and laboratory work (2 hours); weekly reports. 7 sections. 2 Gr., 3 Se., 8 Ju., 11 So., 14 Fr., 58 Sc. Total 96.

For Undergraduates and Graduates: —

2. Asst. Professor SABINE. — Light and Heat. Lectures (2 hours) and laboratory work in Thermometry and Physical Optics (4 to 6 hours). 3 Gr., 3 Se., 1 Sc. Total 7.

3. Professor B. O. PEIRCE and Mr. AYRES. — Electrostatics, Electrokinematics, and parts of Electromagnetism. Lectures (1 hour) and laboratory work (6 to 8 hours); assigned problems; written reports on experiments (about 30); 1 elaborate report on a piece of experimental work, performed without aid. 2 Gr., 4 Se., 1 Ju., 2 So., 1 Fr., 8 Sc. Total 18.
4. Professor TROWBRIDGE, Asst. Professor SABINE, and Mr. T. LYMAN. — Electrodynamics, Magnetism, and Electromagnetism. Lectures (2 hours) and demonstrations (2 hours); laboratory work (two afternoons). 1 Gr., 1 Se., 1 Ju., 11 Sc. Total 14.
- 6¹ *hf.* Professor EDWIN H. HALL. — Elements of Thermodynamics. Lectures (3 hours) and assigned problems. 3 Gr., 4 Se. Total 7.
- 6² *hf.* Professor EDWIN H. HALL. — Modern Developments of Thermodynamics. Lectures (3 hours) and assigned problems. 2 Gr., 2 Se. Total 4.

Primarily for Graduates: —

- †9. Professor B. O. PEIRCE. — The Mathematical Theory of Electricity and Magnetism. Lectures (2 hours) and assigned problems. 5 Gr. Total 5.

COURSES OF RESEARCH.

- 20a. Professor TROWBRIDGE. — Light and Electricity. Lectures (1 hour); laboratory work (two afternoons); thesis. 1 Gr. Total 1.
- 20b. Professor B. O. PEIRCE. — Electricity and Magnetism. Investigation of a special topic. 2 Gr. Total 2.
- 20c. Professor EDWIN H. HALL. — Heat and Electricity. Investigation of a special topic. 2 Gr. Total 2.
- 20d. Asst. Professor SABINE. — Light and Heat. Investigation of a special topic. 1 Gr. Total 1.

Chemistry.

Primarily for Undergraduates: —

- B. Dr. TORREY and Mr. BLACK. — Experimental Chemistry. Lectures (2 hours) and laboratory work (4 hours). 1 Gr., 3 Se., 11 So., 30 Fr., 4 Sp., 4 Sc. Total 53.
1. Professor JACKSON, Mr. CALHANE, and Messrs. BEALS, ELLS, HENDERSON, K. L. MARK, SULLIVAN, and S. E. WILLIAMS. — General Descriptive Chemistry. Lectures (2 hours); laboratory work (4 hours), or recitations (1 hour) and laboratory work (2 hours). 3 sections for recitations, 2 for laboratory work. 1 Gr., 10 Se., 44 Ju., 68 So., 55 Fr., 12 Sp., 126 Sc., 1 Law. Total 317.
- 2¹ *hf.* Dr. TORREY. — Organic Chemistry (elementary course). Lectures (3 hours) and required reading. 2 Gr., 18 Se., 18 Ju., 19 So., 1 Fr., 1 Sp., 25 Sc., 1 Law. Total 85.
3. Asst. Professor SANGER, Mr. COHOE, and Messrs. BONNET, MERRIGOLD, and WAITT. — Qualitative Analysis. Laboratory work (6 hours), with occasional lectures. 1 Gr., 16 Se., 16 Ju., 21 So., 3 Fr., 2 Sp., 28 Sc. Total 87.

4. Asst. Professor SANGER and Mr. MERIGOLD. — Quantitative Analysis, gravimetric and volumetric. Laboratory work (6 hours), with occasional lectures. 3 Gr., 9 Se., 8 Ju., 3 So., 1 Sp., 9 Sc. Total 33.

For Undergraduates and Graduates: —

- 8^h hf. Asst. Professor RICHARDS. — History of Chemistry and Chemical Theory. Lectures (2 hours) and required reading; assigned problems; 2 theses. 6 Gr., 6 Se., 12 Ju., 8 So., 14 Sc. Total 46.
- 9^h hf. Asst. Professor RICHARDS. — Advanced Quantitative Analysis. Lectures (2 hours) and conferences; prescribed reading; laboratory work (6 hours). 2 Gr., 2 Se., 5 Ju., 4 Sc. Total 13.
- 10^h hf. Asst. Professor RICHARDS and Mr. S. E. WILLIAMS. — Gas Analysis. Lectures (1 hour) and conferences (2 hours); laboratory work (9 hours). 3 Gr., 1 Se., 4 Ju., 5 Sc. Total 13.
5. Professor H. B. HILL and Mr. WHEELER. — The Carbon Compounds. Systematic lectures upon the theories of Organic Chemistry and the properties of the more important compounds. Ultimate organic analyses. Preparation of organic compounds in the laboratory. Lectures (3 hours); laboratory work (6 hours); 25 reports. 5 Gr., 9 Se., 6 Ju., 1 So., 2 Sc. Total 23.

Primarily for Graduates: —

6. Asst. Professor RICHARDS and Dr. LEWIS. — Physical Chemistry. Lectures (2 hours) and conferences; laboratory work (6 hours). 5 Gr., 4 Se., 3 Ju., 3 Sc. Total 15.
- 7^h hf. Dr. LEWIS. — Electrochemistry. Lectures on the theory and the most important scientific and technical applications of electrochemistry. Lectures (2 hours) and required reading; recitations and conferences (1 hour); assigned problems; 1 report. 3 Gr., 3 Se., 2 Ju. Total 8.

COURSES OF RESEARCH.

- 20a. Asst. Professor RICHARDS. — Inorganic Chemistry, including Determination of Atomic Weights. Laboratory work and conferences; thesis. 1 Gr., 1 Ju. Total 2.
- 20b. Professor C. L. JACKSON. — Organic Chemistry. Laboratory work and conferences; thesis. 5 Gr., 1 Ju., 2 Sc. Total 8.
- 20c. Professor H. B. HILL. — Organic Chemistry. Laboratory work and conferences; thesis. 3 Gr. Total 3.
- 20d. Asst. Professor RICHARDS. — Physical Chemistry. Laboratory work and conferences; thesis. 4 Gr. Total 4.
- 20e. Asst. Professor SANGER. — Applied Chemistry. Laboratory work and conferences. 1 Se. Total 1.

Botany.

Primarily for Undergraduates: —

- 1^h hf. Professor GOODALE and Mr. OLIVE. — Botany (introductory course). Lectures (2 hours); laboratory work, in 5 sections (4 hours). 1 Gr., 7 Se., 9 Ju., 23 So., 40 Fr., 9 Sp., 28 Sc., 1 Law. Total 118.

- 2¹ *hf.* Asst. Professor THAXTER and two assistants. — Morphology of Plants. Lectures, recitations, and conferences (3 hours); laboratory work, in 4 sections (6 hours). 1 Gr., 3 Se., 8 Ju., 8 So., 1 Sp., 25 Sc. Total 46.

For Undergraduates and Graduates : —

3. Professor GOODALE and Messrs. OLIVE and AMES. — Botany (second course). Morphology, histology (with special reference to the technique of the microscope), and physiology of flowering plants. Lectures (2 hours); laboratory work, in 2 sections (6 hours).
1 Gr., 3 Se., 1 Ju., 1 So., 5 Sc. Total 11.
- 4¹ *hf.* Asst. Professor THAXTER and one assistant. — Cryptogamic Botany. Lectures and recitations (2 hours); laboratory work (6 hours); 1 report.
5 Gr., 3 Ju., 1 So., 2 Sc. Total 11.
5. Professor GOODALE. — Systematic Botany. Lectures (1 hour); laboratory work (4 hours); thesis. 2 Gr., 1 Se., 1 Sc. Total 4.

Primarily for Graduates : —

COURSES OF RESEARCH.

- 20a. Professor GOODALE. — Structure and Development of Phanerogams. Experimental Vegetable Physiology. Economic Botany, with special reference to *Materia Medica*. Laboratory work (9 hours); conferences; thesis. 3 Gr., 1 Sc. Total 4.
- 20b. Asst. Professor THAXTER. — Structure and Development of Cryptogams. Laboratory work (12 hours); report or thesis. 5 Gr., 1 Se. Total 6.

Zoölogy.

Primarily for Undergraduates : —

- 1¹. Asst. Professor G. H. PARKER, Mr. S. R. WILLIAMS, and Mr. TOWER. — Zoölogy. Lectures (5 hours a fortnight); laboratory work, in 5 sections (3 hours); 2 visits to museum; 1 excursion to Nahant.
2 Gr., 21 Se., 16 Ju., 28 So., 30 Fr., 6 Sp., 42 Sc., 1 Law. Total 146.
- 2² *hf.* Dr. CASTLE, Mr. PRENTISS, and a second assistant. — Morphology of Animals. Lectures (2 or 3 hours); laboratory work (6 hours); 2 excursions. 2 Gr., 2 Se., 9 Ju., 11 So., 2 Fr., 1 Sp., 22 Sc. Total 49.

For Undergraduates and Graduates : —

3. Mr. W. B. CANNON and Mr. W. A. WILLARD. — Comparative Anatomy of Vertebrates. Lectures (2 hours); laboratory work (6 to 10 hours); study of special topics by more proficient students.
2 Gr., 7 Se., 2 Ju., 2 Sp., 4 Sc. Total 17.
- 4¹ *hf.* Professor MARK and Dr. CASTLE. — Microscopical Anatomy. Lectures (3 hours); laboratory work (at least 6 hours); 3 reports.
3 Gr., 4 Se., 1 Ju., 7 Sc. Total 15.
- 5³ *hf.* Professor MARK and Dr. CASTLE. — Embryology of Vertebrates. Lectures (3 hours); laboratory work (6 hours).
2 Gr., 4 Se., 1 Ju., 6 Sc. Total 18.
9. Asst. Professor R. T. JACKSON. — Fossil Invertebrates. Lectures (2 hours) and laboratory work (5 hours). 1 Se. Total 1.

15th *hf.* Asst. Professor G. H. PARKER. — The Nervous System and its Terminal Organs. Sense Organs. Lectures (3 hours); laboratory work (6 hours) or library work; report. 4 Gr., 8 Se., 4 Ju., 1 Sp., 7 Sc., 1 Instr. Total 25.

Primarily for Graduates:—

COURSE OF RESEARCH.

20a. Professor MARK. — Anatomy and Development of Vertebrates and Invertebrates. Investigation of special topics. Laboratory and library work; weekly conferences; thesis. 12 Gr. Total 12.

Geology and Geography.

Primarily for Undergraduates:—

A¹ *hf.* Professor DAVIS, Dr. DALY, and Mr. BOUTWELL. — Elementary Physiography. Lectures (3 hours) and conferences; laboratory work (3 hours); written exercises, and laboratory and field work.

17 Ju., 21 So., 8 Fr., 7 Sp., 40 Sc., 1 Bu. Total 94.

B² *hf.* Mr. WARD and Mr. BURR. — Meteorology (elementary course). Lectures (3 hours); laboratory work, in 4 sections (1 hour); 7 reports.

9 Ju., 16 So., 14 Fr., 4 Sp., 41 Sc. Total 84.

4 *hf.* Professor SHALER and Mr. WOODMAN. — Elementary Geology. Lectures (2 or 3 hours), with collateral reading.

1 Gr., 23 Se., 51 Ju., 146 So., 139 Fr., 27 Sp., 74 Sc., 1 Bu., 2 Law. Total 464.

5th *hf.* Mr. J. B. WOODWORTH, assisted by Messrs. WOODMAN and BURR, and by Mr. A. W. G. WILSON in the field. — Elementary Field and Laboratory Geology. Laboratory work in February and March (4 hours); field and laboratory work in April and May (4 hours); collateral reading; 7 reports.

1 Gr., 5 Se., 9 Ju., 33 So., 33 Fr., 6 Sp., 48 Sc., 1 Bu. Total 136.

For Undergraduates and Graduates:—

7th *hf.* Professor DAVIS. — Physiography of Europe. Lectures (3 hours), library work, practice in drawing maps; 2 reports.

5 Gr., 3 Se., 1 Ju., 2 So., 12 Sc. Total 23.

8. Mr. J. B. WOODWORTH, assisted by Mr. J. E. WOODMAN. — General Critical Geology. — Lectures (2 hours) and conferences; field work in fall and spring (4 hours); library work in winter; 9 reports.

6 Ju., 4 So., 14 Sc. Total 24.

10. Asst. Professor SMYTH. — Mining Geology. The origin and geological relations of ore deposits. Lectures (3 hours) and collateral reading; 2 theses.

2 Gr., 1 Se., 2 Ju., 2 So., 10 Sc. Total 17.

22. Dr. JAGGAR. — Advanced Geological Field Work. Areal Geology in the vicinity of Boston. Laboratory and library work in winter (6 hours); field work in fall and spring (2 half-days); conferences (weekly) and occasional lectures; 4 reports; 2 theses. 1 Gr., 1 Se., 4 Sc. Total 6.

11th *hf.* Dr. DALY. — Oceanography. The geology and physiography of the oceans and ocean-basins. Lectures (3 hours) and collateral reading; conferences; 2 reports; thesis.

4 Gr., 5 Se., 6 Ju., 4 So., 17 Sc., 1 Bu. Total 37.

- 16¹ *hf.* Mr. J. B. WOODWORTH. — Glacial Geology. Lectures (2 hours) and conferences; field work in October and November (6 hours); library work in December and January (4 hours); report.
6 Se., 1 Ju., 3 So., 14 Sc. Total 24.
- 19¹ *hf.* Mr. WARD. — General Climatology. Lectures (3 hours) and conferences; library work; 1 or 2 theses.
2 Se., 2 Ju., 2 So., 1 Sp., 10 Sc., 1 Law. Total 18.
- 25² *hf.* Mr. WARD. — Special Climatology. Lectures (3 hours) and library work; 4 reports.
1 Se., 3 Ju., 1 So., 9 Sc. Total 14.
- 14 *hf.* Professor SHALER and Asst. Professor R. T. JACKSON. — General Palaeontology. Lectures (2 or 3 hours) with collateral reading; thesis.
2 Gr., 11 Se., 13 Ju., 6 So., 17 Sc. Total 49.
- 14a *hf.* Asst. Professor R. T. JACKSON. — General Palaeontology. Lectures (1 hour) and laboratory work (4 hours).
2 Gr., 1 Se., 4 Ju., 1 So., 15 Sc. Total 23.
15. Professor SHALER and Asst. Professor R. T. JACKSON. — Historical Geology. Lectures (1 hour); laboratory work (6 hours); theses.
2 Gr., 1 Sc. Total 3.
- 18¹ *hf.* Professor SHALER and Asst. Professor SMYTH. — Economic Geology. Non-metalliferous products and water supply. Lectures (2 hours); thesis.
1 Gr., 2 Se., 1 Ju., 12 Sc. Total 16.

Primarily for Graduates: —

COURSES OF RESEARCH.

20. Professor DAVIS. — Physiography (advanced course). Conferences (twice a week); 2 theses.
1 Gr., 1 R. Total 2.
23. Professors SHALER and DAVIS, Asst. Professor SMYTH, Mr. J. B. WOODWORTH, and Dr. JAGGAR. — Geological Investigation in the Field and Laboratory. Conferences (weekly) and assigned field work; theses.
5 Gr., 1 Sc. Total 6.
24. Professor SHALER and Asst. Professor R. T. JACKSON. — Advanced Palaeontology. Laboratory work, conferences, and theses. 2 Gr. Total 2.

Mineralogy and Petrography.

Primarily for Undergraduates: —

2. Drs. PALACHE and EAKLE. — Mineralogy (including Crystallography, Physical and Chemical Mineralogy, and Descriptive Mineralogy). Lectures (3 hours) and laboratory work (5 hours); 10 reports.
1 Gr., 5 Se., 11 Ju., 6 So., 1 Sp., 23 Sc. Total 47.
- 3¹ *hf.* Dr. EAKLE. — Building Stones. A course of lectures, adapted to students of Architecture, on the composition, occurrence, quarrying, and uses of building stones in the United States. Lectures (1 hour); thesis.
16 Sc. Total 16.

For Undergraduates and Graduates: —

- 7¹ *hf.* Dr. PALACHE. — Crystallography. Practical exercises in the measurement, discussion, and drawing of crystals. Lectures (1 hour); laboratory work (8 hours).
1 Se., 1 Sc. Total 2.

- 8^h hf. Dr. PALACHE. — Physical Crystallography, mainly Optical Mineralogy and its applications. Lectures (2 hours) and laboratory work (7 hours).
 12. Dr. EAKLE. — Petrography. Lectures (2 hours) and laboratory work (5 hours). 2 Gr., 4 Sc. Total 6.

Primarily for Graduates: —

COURSE OF RESEARCH.

20. Drs. PALACHE and EAKLE. — Mineralogical and Petrographical Research. Laboratory work (9 hours); thesis. 2 Gr. Total 2.

Mining and Metallurgy

For Undergraduates and Graduates: —

- 1^h hf. Aast. Professor SMYTH. — Mining. Prospecting and exploring. Lectures (2 or 3 hours); 2 reports. 1 Gr., 1 Se., 2 Ju., 1 So., 13 Sc. Total 18.
 2^h hf. Mr. SAUVEUR. — Metallurgy. Metallurgy of iron and steel, copper, and nickel. Lectures (3 hours). 1 Gr., 4 Se., 4 Ju., 2 So., 12 Sc. Total 23.
 3^h hf. Mr. RAYMER. — Metallurgy. Metallurgy of lead, zinc, gold, silver, and the minor metals. Lectures (3 hours). 1 Gr., 5 Se., 4 Ju., 2 So., 12 Sc. Total 24.
 5. Aast. Professor SMYTH. — Mining. Metal and coal mining, including excavation, development, underground and surface transportation, drainage, ventilation. Lectures (2 hours); recitations and conferences (1 hour); weekly reports; thesis. 4 Sc. Total 4.
 6. Mr. SAUVEUR. — Metallurgical Chemistry. The analysis of ores, metals, slags, fuels, and refractory materials. Lectures (1 hour); laboratory work (15 hours). 4 Sc. Total 4.
 10^h hf. Mr. RAYMER. — Fire Assaying. Lectures (1 hour); laboratory work (4-6 hours); 30 reports. 2 Se., 1 Ju., 14 Sc. Total 17.
 12. Mr. RAYMER. — Mining. The study of mining operations. Field work (six weeks in summer); report. 2 Sc. Total 2.

American Archaeology and Ethnology.

For Undergraduates and Graduates: —

1. Dr. RUSSELL. — General Anthropology. Somatology (Physical Anthropology); Archaeology; Ethnology. Lectures (3 hours), with collateral reading and occasional laboratory work; 2 theses. 2 Gr., 5 Se., 3 Ju., 2 So., 1 Sp., 1 Di., 1 Bu., 1 Instr. Total 16.
 4^h hf. Dr. RUSSELL. — Prehistoric Archaeology; Ethnology of Europe. Lectures (3 hours), with prescribed reading and occasional laboratory work; 2 reports; thesis. 4 Gr., 3 Se., 2 Ju., 4 Sc., 1 Bu. Total 14.
 5^h hf. Dr. RUSSELL. — American Archaeology and Ethnology. Lectures (3 hours) and prescribed reading; 5 reports. 2 Gr., 4 Se., 3 Ju., 1 Sc., 2 Me., 1 Bu. Total 13.

Primarily for Graduates:—

- 2^d hf. Dr. RUSSELL.—Somatology. Lectures and demonstrations (3 hours); laboratory work (6 hours). 1 So. Total 1.
- 3^d hf. Professor PUTNAM and Mr. DIXON.—Primitive Religions. Lectures (3 hours) and prescribed reading; thesis. 1 Gr., 2 Sc., 1 Ju. Total 4.

COURSE OF RESEARCH.

- 20a. Professor PUTNAM.—American Archaeology and Ethnology. Special study in laboratory and museum; field work during the vacation; conferences; 2 reports; thesis. 2 Gr. Total 2.

Anatomy, Physiology, and Hygiene.

These courses may be counted towards the degree of S. B. only, with the exception of Course 1, which may also be counted towards the degree of A. B.

- 1st hf. Dr. DARLING and Dr. PROVANDIE.—Elementary Anatomy and Physiology. Personal Hygiene. Emergencies. Lectures (3 hours); laboratory work, in 4 sections (3 hours). 17 Se., 16 Ju., 30 So., 6 Fr., 4 Sp., 26 Sc., 1 Me. Total 100.
- 4th hf. Dr. D. A. SARGENT.—Anthropometry. Measurements and tests of the body. Effects of age, nurture, and physical training. Lectures and recitations (3 hours); assigned problems; practice in measuring and observing school children. 1 Se., 8 Sc. Total 9.
- 5th hf. Dr. D. A. SARGENT.—Applied Anatomy and Animal Mechanics. Action of the muscles in different exercises. Lectures and recitations (3 hours); experimental work, consultations, assigned problems. 1 Se., 10 Sc. Total 11.

Instruction by Doctors of Philosophy.


The following courses were given in accordance with a vote of the President and Fellows, empowering the Faculty to authorize any Doctor of Philosophy or of Science who has been approved by the Department with which his work is most closely related, to give instruction for a period not exceeding four months, either gratuitously or for such fees as he may himself collect:—

Dr. J. H. WOODS.—The Philosophy of Religion.

Dr. J. E. BOODIN.—Selected Topics in Metaphysics.

Summer Courses of Instruction, 1900.

The following is a list of the Courses of Instruction given during the summer of 1900 under the direction of the Faculty, with an enumeration and classification of the students taking each course. The same abbreviations are used as in the foregoing table, with the addition of the abbreviations S.S. for members of the Harvard

Summer School, and Cu. for member of the Summer School for Cubans, who were otherwise unconnected with the University. The index  denotes courses which may be offered to count towards a degree.

Greek.

- I. Dr. G. H. CHASE. — Greek for Beginners. 5 times a week, for 6 weeks.
1 Sp., 1 R., 6 S.S. Total 8.
- II. Professor WRIGHT and Dr. R. P. KEEP. — Reading course in Homer and Attic prose, for teachers in schools. 5 times a week, for 6 weeks.
7 S.S. Total 7.

Latin.

- I. Mr. H. W. PRESCOTT. — Materials for Teaching Latin in the Secondary Schools. 5 times a week, for 6 weeks. 11 S. S. Total 11.
- II. Professor MORGAN, and Asst. Professor CLIFFORD H. MOORE. — Latin word-formation. Lectures and reading of the authors usually read in schools. 5 times a week, for 6 weeks. 7 S.S. Total 7.

English.

- A. Mr. HURLBUT, assisted by Messrs. C. N. GREENOUGH, and P. R. MILLER. — English Composition (elementary course). 5 times a week, for 6 weeks.
59 S. S., 13 Cu. Total 72.
- B. Dr. MAYNADIER, assisted by Mr. P. R. MILLER. — English Composition (advanced course). 5 times a week, for 6 weeks. 31 S. S. Total 31.
- C. Mr. C. L. YOUNG. — English Composition (second advanced course). 5 times a week, for 6 weeks. 1 Sp., 12 S. S. Total 13.
- D. Asst. Professor BAKER, assisted by Mr. H. B. HUNTINGTON. — English Composition. Argumentation. 5 times a week, for 6 weeks.
5 S. S. Total 5.
- Dr. SCHOFIELD. — Anglo-Saxon. Anglo Saxon Reader and Grammar. 5 times a week, for 6 weeks. 4 S. S. Total 4.
- Dr. SCHOFIELD. — Chaucer (Canterbury Tales, etc.). 5 times a week, for 6 weeks. 6 S. S. Total 6.
- Asst. Professor BAKER, assisted by Mr. H. B. HUNTINGTON. — Shakspeare. 5 times a week, for 6 weeks. 1 Sp., 24 S. S., 1 Cu. Total 26.
- Mr. HURLBUT, assisted by Mr. C. N. GREENOUGH. — English Literature of the Eighteenth Century. Chief writers of the second half of the Century. 5 times a week, for 6 weeks. 11 S. S., 2 Cu. Total 13.
- Messrs. J. G. HART, C. L. YOUNG, and P. J. GENTNER. — English Literature in Outline, from Anglo-Saxon Times to the Present. 5 times a week, for 6 weeks. 18 S. S. Total 18.
- Mr. I. L. WINTER. — Reading and Speaking. Course for teachers of reading and public speaking, and for teachers of English. 5 times a week, for 6 weeks. 1 Sp., 5 S. S. Total 6.

German.

- I. Dr. POLL. — Composition and Conversation. 5 times a week, for 6 weeks.
1 Fr., 17 S. S. Total 18.
- II. Asst. Professor H. K. SCHILLING. — Middle High German. 5 times a week,
for 6 weeks. 6 S. S. Total 6.

French.

- I. Associate Professor DE SUMICHEAST, assisted by Mr. A. LE BRUN. — Introductory Course. Grammar, reading, and translation. 5 times a week,
for 6 weeks. 9 S. S., 1 Cu. Total 10.
- II. Associate Professor DE SUMICHEAST, assisted by Mr. A. LE BRUN. — Advanced Course. Reading, composition, and literature. 5 times a week,
for 6 weeks. 1 R., 15 S. S., Total 16.

Spanish.

- I. Dr. FORD. — Introductory Course. Grammar, composition, and translation.
5 times a week, for 6 weeks. 11 S. S. Total 11.

History and Government.

- I. Dr. BOTSFORD and Mr. S. P. R. CHADWICK. — Roman History. Lectures
(5 times a week, for 5 weeks); research, conferences and written work
(1 week). 18 S. S. Total 18.
- II. Professor HART, and Dr A. L. CROSS. — American History. Lectures and
training in the use of materials, and in the application of the laboratory
method of study. 5 times a week, for 6 weeks. 26 S. S. Total 26.
- III. Professor MACVANE and Mr. J. P. WARREN. — Civil Government. Lec-
tures, reading, and reports. 5 times a week, for 6 weeks.
11 S. S., 1 Cu. Total 12.

Psychology.

- I. Dr. MACDOUGALL. — The Psychology of the senses and the development
of voluntary motor ability. 5 times a week, for 6 weeks.
16 S. S., 1 Cu. Total 17.
- II. Dr. MACDOUGALL. — Experimental investigations in the field of sensory and
motor activity. 5 times a week, for 6 weeks. 14 S. S., 1 Cu. Total 15.

Education and Teaching.

- I. Asst. Professor HANUS. — General Principles of Education. Courses of
study; organization and administration of schools and school systems. 5
times a week, for 6 weeks. 46 S. S., 3 Cu. Total 49.
- II. Mr. A. O. NORTON. — History of Educational Aims and Principles from
antiquity to the present time. 5 times a week, for 6 weeks.
17 S. S. Total 17.


Theory of Design.


- Dr. D. W. ROSS assisted by Messrs. H. H. CLARK and W. D. SWAN. — Lectures,
with experimental practice, for designers, for teachers of Design, and for
teachers of the History of Art. 65 S. S., 1 Cu. Total 66.

Mathematics.

Dr. D. E. SMITH.—The Teaching of Elementary Mathematics. Lectures on teaching Arithmetic, Algebra, and Geometry. 5 times a week, for 6 weeks. 7 S. S. Total 7.

Sd. Dr. D. F. CAMPBELL.—Advanced Algebra. 5 times a week, for 6 weeks. 1 Sp., 4 S. S. Total 5.

 **S1. Mr. ASHTON.**—Solid Geometry. 5 times a week, for 6 weeks. 1 Se., 2 Ju., 2 Fr., 3 Sp., 7 S. S. Total 15.


 **S2. Mr. LOVE.**—Plane Trigonometry. 5 times a week, for 6 weeks. 1 Se., 5 Ju. 3 So., 1 Fr., 2 Sp., 1 Sc., 1 Med., 3 S. S. Total 17.

S4. Mr. ASHTON.—Differential and Integral Calculus. 5 times a week, for 6 weeks. 2 Sc., 4 S. S. Total 6.

Astronomy.

Mr. REED.—Lectures, laboratory work, and observations. 5 times a week, for 6 weeks. 2 S. S. Total 2.

Engineering.

 **S1. Mr. TURNER.**—Plane Surveying. Field work. Daily, 7 weeks. 1 Sc. Total 1.

S2. Mr. TURNER.—Geodetic Surveying. Daily, 3 weeks. 2 S. S. Total 2.

Mr. TURNER.—Railroad Surveying. Daily, 4 weeks. 1 Sc., 2 S. S. Total 3.

Asst. Professor W. S. BURKE.—Shopwork. Chipping, filing, and fitting. Daily, 5 weeks. 1 Sc. Total 1.

Asst. Professor W. S. BURKE.—Shopwork. Blacksmithing. Daily, 5 weeks. 1 Sc. Total 1.

Physics.

Asst. Prof SABINE, assisted by Mr. W. E. McELFRESH and Professor W. D. COLLINS (Earlham College).—Elementary Physics. 5 times a week, for 6 weeks. 1 Sc., 22 S. S. Total 23.

Asst. Professor SABINE.—Advanced Physics. 5 times a week, for 6 weeks. 8 S. S., 1 Cu. Total 9.


Chemistry.

Dr. TORREY assisted by Messrs. WHEELER, BLACK and COHOB.—Elementary Theoretical and Descriptive Chemistry. 5 times a week, for 6 weeks. 1 Sc., 18 S. S. Total 19.

Dr. TORREY and assistants.—Advanced course in General Chemistry. 5 times a week, for 6 weeks. 4 S. S., 2 Cu. Total 6.

Dr. TORREY and assistants.—Elementary Organic Chemistry. 5 times a week, for 6 weeks. 10 S. S. Total 10.

Botany.

 **S1. Mr. OLIVE and Mr. KING.**—Lectures, laboratory work, and field work. 5 times a week. for 6 weeks. 3 Ju., 6 So., 1 Fr., 1 R., 14 S. S. Total 25.

Geology.

☛ S1. Professor SHALER and Mr. WOODMAN.—Elementary course. Lectures; laboratory and field work. 5 times a week, for 6 weeks.

5 Ju., 2 So., 2 Fr., 1 Sp., 4 Sc., 1 R., 13 S. S. Total 28.

☛ S2. Mr. J. B. WOODWORTH and Professor A. P. BRIGHAM (Colgate University).—Field work in central New York and in Connecticut. From July 5 to August 15. 2 Sc., 2 S. S. Total 4.

Geography.

Professor DAVIS, assisted by Mr. BURR.—Lectures, laboratory, and field work. 5 times a week, for 6 weeks. 42 S. S. Total 42.

Mineralogy and Lithology.

Dr. EAKLE.—Lectures and laboratory work. 5 times a week, for 6 weeks.

1 Fr., 4 S. S. Total 5.

Physical Training.

Dr. D. A. SARGENT and assistants.—Elementary and advanced courses in theory and practice. 5 weeks. 1 Bu., 113 S. S., 12 Cu. Total 126.

Historical Excursions.

Mr. J. P. WARREN, assisted by Mr. E. D. LEWIS.—Historical Excursions. 3 lectures and 7 excursions.

Instruction provided for 1900-01.

The announcement of Courses of Instruction for 1900-01 was issued as usual about the end of May. At that time the department of Economics, which had met with a severe loss in the death of Professor Dunbar, had not completed its arrangements for the present year; and owing to this circumstance and to certain important changes in the plans of instructors which occurred during the vacation, a second edition of the pamphlet was issued in September. The total amount of instruction announced exceeds that of last year by the equivalent of eighteen courses. The increase is distributed among most of the departments, those having the largest share of it being History and Government, Architecture, and Geology. On the other hand there is a slight falling off in some departments. The falling off in all cases, and in some cases the increase, is due to temporary causes or is only apparent; thus in the Classics, where the figures show a decrease of three courses, only one of these,—due to the unexpected absence of Professor Greenough,—represents a real loss, the other two being accounted for by the change of two Freshman courses in Greek and two in Latin to one in each language,

with two sections assigned to different hours,—a change of form only. The increase of the offering in History and Government is partly in the nature of a recovery from temporary diminution due to the absence of Professors Emerton and Gross last year,—partly, however, to a real enlargement of instruction, as in the case of Professor Macvane's important course in European history since the middle of the 18th century (History 12), which now appears as four half-courses, on (1) English history from the Revolution of 1688 to the Reform of Parliament, (2) English history since the Reform of Parliament, (3) History of Continental Europe from the Peace of Utrecht to the fall of Napoleon I, (4) History of Continental Europe since the fall of Napoleon I. The increase credited to Architecture consists mainly of the three courses in Landscape Design, noted below, which have been provided for the newly established programme in Landscape Architecture in the Lawrence Scientific School. The increase in the Division of Geology is due chiefly to an enlargement of the instruction in Mining and Metallurgy, accompanying a general rearrangement of the courses in that department. Another noteworthy change in the list is the disappearance of the elementary courses in Greek and Latin composition (Greek *F*, Latin *F*). As these courses were maintained as the equivalent of the Greek and Latin Composition of the admission requirements, and as Greek and Latin Composition are no longer separate subjects in the new requirements, but are merged in the 'Advanced Greek', and 'Advanced Latin' respectively, the College courses corresponding to the latter (Greek *A*, Latin *A*) were made to conform to the new scheme by including in each of them some of the instruction in composition hitherto provided separately in Course *F*.

Besides these substantial changes, there are as usual many changes of detail, especially changes of instructors or of the plan of instruction in some of the courses given regularly every year, and changes due to alternation and rotation among the more advanced courses. In view of these changes and of those of a purely formal character, referred to above, the numerical aggregates of the courses offered in successive years may not be used as a basis for exact comparison; yet when all due allowance is made for variations that are merely apparent, the figures for the past three Announcements still indicate a very substantial increase in the body of instruction offered:—

1898-99,	327½ courses
1899-1900,	338 “
1900-01	356 “

Among the courses announced for the present year, the following deserve special mention as distinct additions to the list : —

Primarily for Undergraduates : —

Mr. W. G. HOWARD, — German (elementary course, intended for students of the Scientific School who did not present German for admission).

For Undergraduates and Graduates : —

Mr. FLETCHER. — Tendencies of European Literature during the Renaissance.

Asst. Professor GATES. — History of Romanticism in England, Germany, and France during the Nineteenth Century.

Professor ASHLEY. — The Economic Organization and Resources of European Countries.

Mr. W. F. WILLOUGHBY. — Provident Institutions. Workingmen's Insurance, Friendly Societies, Savings Banks. *Hf.*

Mr. A. P. ANDREW. — Money. *Hf.*

Mr. W. M. COLE. — The Principles of Accounting. *Hf.*

Professor ROYCE. — Theory of Knowledge. The processes of Conception, Judgment, and Reasoning. The relations of Thought and Reality. The elements of Symbolic Logic. *Hf.*

Mr. SPALDING. — Musical Form, with analysis of the works of the great composers. *Hf.*

Professor HOLLIS. — Marine Engines and Boilers. (Not counted for the degree of A.B.)

Mr. S. E. WHITING. — Electrical Engineering Laboratory. Electric light photometry; storage batteries; insulating materials; cable testing. (Not counted for the degree of A.B.)

Asst. Professor SABINE. — The Theory of the Microscope, its accessories, and other optical apparatus used in the study of organisms. *Hf.*

Asst. Professor G. H. PARKER. — Introduction to the study of the Nervous System. *Hf.*

Primarily for Graduates : —

Professor MORGAN. — Early Greek Oratory. Gorgias, Antiphon, Andocides. *Hf.*

Asst. Professor HOWARD, — The Second Punic War (Livy, books *xxi-xxx*).

Dr. NEILSON. — Scottish Literature from Barbour to Lindesay. *Hf.*

Asst. Professor BAKER. — English Literature. The Drama in England from 1642 to 1900. *Hf.*

Professor VON JAGEMANN. — The works of Hartmann von Aue.

Dr. BOTSFORD. — Greek and Roman Institutional History (seminary course).

Dr. LAPSLEY. — Legal Institutions of Europe in the Middle Ages. Early Germanic Law; mediæval French and German Law; revival of the Roman Law.

Mr. BRUCE WYMAN. — Administrative Law in the United States. *Hf.*

Professor ASHLEY. — The Mercantilists.

Professor TAUSSIG. — Adam Smith and Ricardo. } (seminary courses).

Asst. Professor SANTAYANA. — Studies in Aristotle's *Metaphysics* (seminary course).

Dr. BIERWIRTH. — The Methods of Equipment of a Teacher of German in Secondary Schools. *Hf.*

Mr. J. L. COOLIDGE. — The Geometry of Position.

Professor B. O. PEIRCE. — The Elements of the Mathematical Theory of Elasticity. *Hf.*

Professor J. M. PEIRCE. — Quaternion Imaginaries and other selected topics in Quaternions. *Hf.*

Asst. Professor OSGOOD. — Selected topics in Higher Analysis (course in reading and research).

Asst. Professor ADAMS. — Investigations in connection with Alternating Current Machinery.

Mr. SAUVEUR. — Metallography and the Physics of Metals (course of research).

For students of Landscape Architecture in the Scientific School: —

Mr. OLMSTED (with occasional lectures by Professor SHALER). — History and principles of Landscape Design. (May be counted for the degree of A.B.)

Messrs. OLMSTED and SHURTLEFF. — Practice in Landscape Design (first course).

Messrs. OLMSTED and SHURTLEFF. — Practice in Landscape Design (second course).

The Prescribed Study of English.

It has been the steady policy of the Faculty for some years past to stimulate such an enlargement and improvement of the instruction in English in the preparatory schools as might eventually, it was hoped, enable us to dispense with the prescribed study of English in College; and while the Faculty has deemed it unwise to increase the admission requirement in this subject, it has constantly encouraged candidates, who had the opportunity to do so, to carry their study and training beyond the requirement so far as to anticipate the prescribed English of the Freshman year (English A). Meanwhile the general improvement in the instruction in English had been such that the Faculty felt itself justified in gradually abolishing the requirement of the study of English in the upper college classes, while making ample provision for such study in elective courses. The latest step in this movement was taken at the beginning of the last academic year, when English C (Junior Forensics) was discontinued,

and English *B* (Sophomore Themes) and English *A* were united to form a single full course, called English *A* and prescribed for Freshmen. The new English *A* is much more substantial than the old, and a distinctly better quality of work is demanded than heretofore, a student who passes with a grade lower than *C* being required to take in the ensuing year an elective half-course in English Composition in addition to his regular work. (See Reports for 1898-99, pp. 92, 116.) As a result of these changes, the total requirement in English prescribed for all candidates for the degree of A.B. consisted of (1) the admission subject known as 'Elementary English,' and (2) the new English *A*. The provisions, therefore, which the Faculty had made for anticipating English *A*, now made it possible for a student to exempt himself entirely from the prescribed study of English in College. These provisions are as follows:—

1. An examination, requiring a course of preparation equivalent to English *A*, is held regularly in June and September in connection with the examinations for admission. A student who passes this examination with a grade of *A* or *B* is exempted from the prescribed study of English in College; if he passes with a lower grade, he is exempted from English *A*, but must take a half-course in English Composition, in addition to his regular elective work, before the end of his Sophomore year.

2. A candidate who has passed the examination in Elementary English with a grade of *A* or *B*, may take a second examination, which, if passed with a grade of *A* or *B*, will exempt him from the prescription of English *A*. At this second examination, which is held in September, the candidate is called on to write one or more compositions on topics selected by him from a list comprising subjects in English Literature, the Classics, French and German authors, history, and science.

In January last the Faculty, acting, as it has at each step of the movement here recorded, on the advice of the Department of English, adopted a new plan which provides for the abolition (after 1903) of the anticipatory examination in English *A* (No. 1, above), and the establishment of an alternative requirement, to be accepted as the equivalent of Elementary English and English *A* combined. The definition of this requirement is as follows:—

In 1900 and thereafter a candidate for admission to Harvard College or the Lawrence Scientific School may take an examination in English which, if he passes it with a grade higher than *D*, will exempt him from prescribed English in College. If he passes it with grade *D*, he will be

required to take before the end of his Sophomore year a half-course in English Composition in addition to his regular elective courses.

The examination will consist of questions in Rhetoric,* questions in Literary History from the time of Shakspeare, and compositions based on the following works : —

- | | |
|--------------------------------------|--|
| Palgrave : | Irving : |
| Golden Treasury (First Series) | The Legend of Sleepy Hollow |
| Shakspeare : | Rip Van Winkle |
| Julius Caesar | Tales of a Traveller |
| The Merchant of Venice | Thackeray : |
| Macbeth | Henry Esmond |
| Twelfth Night or As You Like It | Dickens : |
| King Lear or Hamlet | A Tale of Two Cities or David Copperfield |
| Milton : | Browning : Selections, for example, |
| L'Allegro | Cavalier Tunes |
| Il Penseroso | The Lost Leader |
| Comus | How They Brought the Good News from Ghent to Aix |
| Bunyan : | Evelyn Hope |
| The Pilgrim's Progress, or | Home Thoughts, from Abroad |
| Defoe : | Home Thoughts, from the Sea |
| Robinson Crusoe | Incident of the French Camp |
| Dryden : | The Boy and the Angel |
| Alexander's Feast | One Word More |
| To the Memory of Mr. Oldham | Hervé Riel |
| Upon the Death of the Earl of Dundee | Pheidippides |
| Swift : | Tennyson : Selections, for example, |
| The Voyage to Lilliput | Enid |
| Addison and Steele : | Elaine |
| The Sir Roger de Coverly Papers | The Passing of Arthur |
| Pope : | The Lady of Shalott |
| Epistle to Arbuthnot | The Lotus Eaters |
| Goldsmith : | Ulysses |
| The Vicar of Wakefield | Tithonus |
| The Deserted Village | The Revenge |
| Scott : | Franklin : |
| The Lady of the Lake | Autobiography |
| Ivanhoe | Hawthorne : |
| Quentin Durward | The House of the Seven Gables |
| Macaulay : | Longfellow : |
| Life of Johnson | Tales of a Wayside Inn |
| Lays of Ancient Rome | Lowell : |
| Byron : | The Vision of Sir Launfal |
| Mazeppa | |
| The Prisoner of Chillon | |

* A. S. Hill's Principles of Rhetoric is used for corresponding study in Harvard College, and is recommended for use in preparation for this examination.

The candidate is expected to read all the books prescribed.* He should read them as he reads other books,—not trying to remember them in detail, but regarding each work as a whole and giving it such appreciation as shall enable him to write about it intelligently. In every case the examiner will regard knowledge of the books as less important than ability to write English; if the examination book in English affords insufficient evidence, he will examine the written work of the candidate in other subjects.

No candidate will be accepted in English whose work is seriously faulty in spelling, grammar, punctuation, or division into paragraphs.

Preparation for the examination should occupy at least three school hours, or periods, a week for four years. Throughout the course frequent short compositions should be required as well as occasional long ones. Topics should be chosen by the pupil himself whenever that is possible; and the topics assigned by the instructor should be within the range of the pupil's knowledge and sympathies, and should be such as to awaken interest and stimulate intelligence. Criticism should be constant and thorough; it should take account of merits as well as of faults, and should never interfere with the honest expression of opinion or with the free play of individuality in thought and expression. Mechanical methods of every kind should be avoided; and attention should be fixed on principles rather than rules.

As to the right way of studying Rhetoric, attention is called to the following extract from the Report of the Vassar Conference:—

“ Though it is clear that the power to write a language can be obtained only by unremitting practice, yet, in the opinion of the Conference, such practice may properly be accompanied and illustrated by a course in elementary rhetoric. This course should include not only the principles of clearness, force, and good taste, but the principles of the arrangement of clauses in the sentence and of sentences in the paragraph. The teacher should bear in mind that any body of written English, of whatever length, is an organic unit, with principles that apply as well to the arrangement of the minor elements as to the grouping of the larger divisions of essay or book. Especial care should be taken that rhetoric is not studied by itself or for its own sake. Its connection with the pupil's actual written or spoken exercises should be kept constantly in view.” †

This announcement is one of the most significant that has been issued in recent years. It is a declaration on the part of the Faculty of its belief that the formal training in the writing of English necessary for a college graduate can be secured in a properly

* In connection with the prescribed books, parallel or subsidiary reading should be encouraged, and a considerable amount of English poetry committed to memory.

† Report of the Committee of Ten, page 95, section 8.

ordered school course of three exercises a week for four years. As a result of the introduction of the new examination, a student may now satisfy the requirements in English in any one of four ways:—

(1) by passing the new examination with a grade not lower than *C*; or by passing it with grade *D* and passing in an elective half-course in English Composition in College;

(2) by passing the admission examination in Elementary English, and supplementary September examination (No. 2, above) each with a grade above *C*;

(3) by passing the admission examination in Elementary English and then either passing the anticipatory examination in English *A* with a grade of *A* or *B*, or passing that examination with a grade below *B* and passing in an elective half-course in English Composition. (This method is to be discontinued after 1903.);

(4) by passing the admission examination in Elementary English, and, in College, either (*a*) passing in English *A* with a grade not lower than *C*, or (*b*) passing in English *A* with grade *D* and passing in an elective half-course in English Composition.

For the degree of B.S. the requirement in English embraces Elementary English and English *A*, with a provision that students in General Science who pass in English *A* with a grade lower than *B*, and other students of the Scientific School who pass in that course with a grade lower than *C*, shall take an additional half-course, known as English *BC*. The new examination and the other methods of anticipating English *A* are open to Scientific as well as to College students.

THE AUSTIN SCHOLARSHIPS FOR TEACHERS AND THE AUSTIN TEACHING FELLOWSHIPS.

The eight Austin Scholarships for Teachers, established by the Corporation for the purpose of assisting teachers already in service to spend a year in study at the University, were first awarded in a tentative way for the year 1899–1900. The incumbents were teachers in school or college employed in various parts of the country, including among others the states of Virginia, Georgia, Texas, and Washington. Early in the year the Faculty formulated rules for the administration of these scholarships, which were adopted by the Corporation and published in the Catalogue. The rules provide that “these scholarships shall be open to persons who have attained established positions as teachers in colleges or secondary schools or as superintendents of schools, and intend to return to service

in the same or similar positions. In the assignment preference will be given to applicants who have obtained leave of absence for one year for the purpose of studying at the University." Students to whom these scholarships are awarded may register in the Graduate School, in the College, or in the Scientific School.

The Faculty also had under consideration the conditions of holding the Austin Teaching Fellowships, but the rules regulating this subject were ultimately formulated by the Corporation.

THE RICARDO PRIZE SCHOLARSHIP.

The Ricardo Fellowship, which was instituted for the study of "the relations of the public to public service corporations," and was awarded for the year 1898-99, but not continued in the year 1899-1900, was revived for the present year in the form of a prize scholarship, to be held by a member of Graduate School, or of the Senior Class in Harvard College, who was a student of the University during the past year. The award was made in June, and was based partly on the general evidence of proficiency submitted, partly on an examination in which each candidate was called upon to write, in the examination room, an essay on a topic, chosen by himself from a list not previously announced, in economics and political science. The incumbent is required, under the rules adopted by the Faculty, to carry on his studies in the year 1900-01 under the supervision of the Department of Political Economy, and to devote the major portion of his time during that year to economic and political studies, giving special attention to the problems involved in the relation of the state to industrial enterprise.

GRADUATION IN LESS THAN FOUR YEARS.

The question of reducing the period of residence required for the degree of A.B. was before the Faculty at the beginning of the year in the shape of a report from a Committee of Conference representing the Faculties of Arts and Sciences, Divinity, Law, and Medicine. This committee had formulated a scheme by which a student might pass from the College to a professional school at the end of his Junior year, and graduate with his class on the completion of a year of professional study. The report had come to the Faculty in March, 1899; it was discussed at several meetings during the spring and again in the autumn, and was finally laid on the table in the latter part of November, when it had become apparent that

this solution of the problem did not commend itself to a majority of the Faculty. Important action bearing on the same question was taken by the Faculty of the Law School, which announced its intention to discontinue the practice of admitting to the School Harvard Seniors on leave of absence, with permission to complete their college studies while doing the first year's work in Law. The Faculty of Arts and Sciences had been in the habit of granting leave of absence to such students of the College whose work still to be done did not exceed one and a half courses. Meanwhile the question had also been discussed in the Board of Overseers, who on April 29 communicated to the Faculty two votes, — (1) requesting that there be inserted in the Catalogue a clear statement of the conditions on which the various degrees given in course can be obtained, and (2) recommending that no undergraduate should be allowed to remain in residence at the University for any year without taking at least four courses or their equivalent, except upon a special vote of the Faculty. The object of the second of these votes is already secured by the existing regulations, except that the Faculty has delegated the consideration of petitions for exemption from the rule to the appropriate administrative boards, under Section 6 of the Statutes of the University; but the principle enunciated in the vote will have an important application if a plan should be adopted providing for a three-year course, with a somewhat smaller amount of work required, alongside of the four-year course. At present the amount required is the same, whether done in four years or in three. On the subject proposed in the first vote of the Overseers the Faculty had already taken partial action, having caused to be prepared for insertion in the Catalogue a statement of the existing requirements, with especial reference to the period of residence, for the degree of Bachelor of Arts. After some discussion the Faculty concluded to enter on a more thorough examination of the subject, and to inquire into the feasibility of improving the conditions on which the degree may be obtained in less than four years. The matter was accordingly referred to a committee, with instructions to prepare and report a new definition of requirements for the attainment of the degree in less than four years. The subject is expected to come before the Faculty early in the present year.

CLEMENT L. SMITH, *Dean.*

NOVEMBER 2, 1900.

214565

THE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,— I beg to make my report on the condition of Harvard College during the academic year 1899–1900.

The number of students at the beginning of the year was nineteen hundred and two:—

Seniors	310
Juniors	392
Sophomores	508
Freshmen	498
Total number of Undergraduates	1708
Special Students	194
	<hr/> 1902

Compared with the figures of the preceding year, these figures show a gain of fifty-one:—

	Gain.	Loss.
Seniors . . . . .	..	59
Juniors	57	..
Sophomores . . . . .	..	..
Freshmen	27	..
Special Students	26	..
	<hr/> 110	<hr/> 59
	59	
Net gain	51	

The smallness of the Senior class is explained by the absence of about fifty of its members, who had finished their work for the degree of A.B. and who, for the most part, were registered in professional schools. The class of 1902 lost two members in the summer vacation by death.

Four hundred and seven students, against four hundred and forty-six in 1899, received in June the degree of Bachelor of Arts. Of these, one hundred were not registered as Seniors. The losses and the gains in the three younger classes between November, 1899, and November, 1900, may be learned from the following tables:—

NUMBER OF STUDENTS.

101

	November, 1899.	Loss.	Gain.	November, 1900.
Class of 1901 . .	(Juniors) 392	110	109	(Seniors) 391
Class of 1902 . .	(Sophomores) 508	174	46	(Juniors) 380
Class of 1903 . .	(Freshmen) 498	86	126	(Sophomores) 538
		370	281	
Net loss in the three classes between Nov. 1899 and Nov. 1900 89				

	Class of 1901.	Class of 1902.	Class of 1903.	Total for three classes.
LOSSES.				
Left College before the end of the year . .	9	18	21	48
Left College at the end of the year	83	21	12	116
Were "dropped" and left College	1	19	11	31
Entered a lower class	5	58	26	89
Entered a higher class	12	58	16	86
Total loss	110	174	86	370
GAINS.				
From higher classes	5	5	58	68
From lower classes	58	16	0	74
Newly admitted	46	25	68	139
Total gain	109	46	126	281
Net loss	1	128	0	89
Net gain	0	0	40	0

The next table shows the losses and the gains in the number of Special Students since December, 1899 :—

In attendance, December, 1899	194
Left College before the end of the year	37
Left College at the end of the year	55
Entered a College class	42
Total loss	134
Reentered College as Special Students, 1900	60
Newly admitted	89
Total	149
Net loss	45

A falling off in the number of Special Students, in a year of increased numbers for the College at large, is a healthy sign. The Freshman class shows a gain of forty members :—

Admitted by examination in 1900	476
Admitted by examination before 1900	24
From a higher class	30
“ the Special Students	1
“ the Lawrence Scientific School	6
Total	<u>537</u>

Thirty-three persons who took in June some of their Final Examinations for admission did not take the remainder in September. Besides these, six hundred and forty-seven (sixty-seven more than in 1899) took Final Examinations. Of the six hundred and forty-seven, five hundred and seven already had Preliminary certificates; sixty-five divided the examinations between June and September; thirty-three took all their examinations in June; and forty-two took all in September :—

	Admitted.	Admitted “Clear.”	Rejected.
June	459	204	51
September	111	11	26
Total	<u>570</u>	<u>215</u>	<u>77</u>

The six hundred and forty-seven candidates chose their plans of admission as follows :—

OLD METHOD.

Plan (a): All the Elementary Studies and at least two Advanced Studies; sixteen hours of examination	202
Plan (b): All the Elementary Studies except either German or French, and at least three Advanced Studies; seventeen hours of examination	320
Plan (c): All the Elementary Studies except either Greek or Latin, and at least four Advanced Studies, including Advanced Mathematics; eighteen hours of examination	36
Plan (d): All the Elementary Studies except either German or French and either Greek or Latin, and at least five Advanced Studies, including Advanced Mathematics; nineteen hours of examination	6
	<u>564</u>

NEW METHOD.

With Greek (Elementary)	48
Without Greek	35
Total	83
“ Old Method	564
	<u>647</u>

The total number of candidates without Greek is seventy-seven,—thirty-two more than in 1899.

Though the foregoing table assigns every candidate to a place under one method or the other, a good many candidates have combined the two. Some who took Preliminary Examinations under the Old Method took Final Examinations under the New; others, whose schools were adopting the New Method gradually, took New Method papers in all subjects in which they had New Method teaching. The general scheme of the New Method with the specific definitions of the Old would be a marked reduction of the requirements for admission. Reckoned in terms of the New Method, a two-hour Elementary Subject of the Old counts four points; a one-hour Elementary Subject, two points; a two-hour Advanced Subject, two points; a one-hour Advanced Subject, one point. A candidate under Plan (b) of the Old Method offers all the Elementary Subjects except either French or German, and three Advanced Subjects. Translated into "points," his Elementary Subjects stand thus:—

English	4
Greek	4
Latin	4
French (or German)	2
History	2
Algebra	2
Plane Geometry	2
Physics	2
	<hr/> 22

To complete his twenty-six points with every requirement of the New Method, he needs but two Advanced Subjects instead of three; and accordingly by the translation of his record into terms of the New Method he would reduce by one Advanced Subject the requirements for admission. Under Plan (c) or Plan (d) he would effect a corresponding reduction; but not under Plan (a), since the New Method makes no provision for the counting of both French and German. Under Plan (a) he would count twenty-eight points instead of the required twenty-six; and the two additional points with which he would be credited for his second Modern Language would only exempt him from that language in College, would not count toward his admission. Indeed, one objection frequently urged against the New Method when the Faculty were questioning whether to adopt it, was the discouragement that it offered to Plan (a).

No candidate under the Old Method, and under that only, has had his record counted in terms of the New: but in judging the

mixed cases the College has remembered that the transitional period will soon be over, and has feared unfairness more than it has feared leniency. The relative difficulty of the two Methods unmixed cannot yet be determined; but we may fairly suspect that the New Method is not so much harder than the Old as most school teachers and some College teachers have believed.

In one respect the New Method is less convenient to administer than the Old. A fundamental principle of the Old Method was the equivalence of every Advanced Subject to some College elective course. As a matter of fact, the College course was harder than the admission subject, — if for no other reason, because the work in it could be more searchingly tested; but the theory of their equivalence was of real value in the adjustment of College records to admission records. With the old subjects under the New Method, the theory still holds, — and since the new definitions make the subjects harder, it comes nearer the fact than before; but with the new subjects there has been no systematic attempt to establish a definite relation with College elective courses. Meteorology is equivalent to the half-course known as Geology *B*; but Advanced History has no recognizable relation to any College course.

The next table shows the comparative success of the various plans of admission: —

	Admitted.	Rejected.	Percentage of Failure.
Plan (<i>a</i>)	185	17	8.4
" (<i>b</i>)	300	20	6.2
" (<i>c</i>)	22	14	40
" (<i>d</i>)	2	4	66.66
New Method, with Greek	39	9	18.75
New Method, without Greek . . .	22	13	37
	<u>570</u>	<u>77</u>	

The percentage of failure among the six hundred and forty-seven candidates is nearly twelve.

Of the six hundred and forty-seven candidates, five hundred and thirty-seven offered Ancient History rather than Modern; ninety-four, Modern rather than Ancient; one, both Ancient and Modern; and fifteen, neither. Four hundred and eighty-eight candidates offered Experimental Physics rather than Descriptive; and eighty-five offered no Physics at all. Of the eighty-five, sixteen were candidates under the New Method, of whom fourteen offered Chemistry

and two Physiography and Anatomy. In Advanced Studies, French has gained the second place, but is closely pressed by both Latin Composition and Advanced Greek : —

1898.	1899.	1900.
1. Latin.	Latin.	Latin.
2. Latin Composition.	Latin Composition.	French.
3. French.	Greek.	Latin Composition.
4. Greek.	French.	Greek.
5. Greek Composition.	Greek Composition.	Greek Composition.
6. Solid Geometry.	Solid Geometry.	German.
7. German.	German.	Chemistry.
8. Log. and Trig.	Log. and Trig.	Solid Geometry.
9. Chemistry.	Chemistry.	Log. and Trig.
10. Algebra.	Algebra.	Algebra.
11. Analytic Geometry.	Analytic Geometry.	History.
12. Physics.	Physics.	Analytic Geometry.
13.		Physics.
14.		Astronomy.
15.		Meteorology.

The new subjects — History, Astronomy, and Meteorology — are naturally near the bottom of the list; but there is strong *a priori* reason for believing that before many years History will gain a much higher place.

The next table gives the details on which the foregoing table is based : —

Number of candidates offering	1898.		1899.		1900.	
		Per cent.		Per cent.		Per cent.
Advanced Greek	312	55.42	357	61.55	380	60
Advanced Latin	464	82.42	531	91.55	550	85
Greek Composition	274	48.67	298	51.38	284	44
Latin Composition	335	59.5	394	67.92	381	60
Advanced German	141	25.04	121	20.86	157	24.26
Advanced French	315	55.95	343	60	397	61
Advanced History	125	22.20	118	20	36	5.56
Logarithms and Trigonometry	142	25.22	143	24.65	88	13.60
Solid Geometry	26	4.62	17	2.93	93	14.37
Analytic Geometry	51	9.06	46	7.93	10	1.54
Advanced Algebra	6	1.07	8	1.38	51	8 —
Advanced Physics	85	15.1	92	15.86	8	1.23
Chemistry . . . . .	. . .		. . .		108	16.69
Astronomy . . . . .	. . .		. . .		7	1.08
Meteorology . . . . .	. . .		. . .		4	.61

The next two tables show, for each study, the percentage of failure (*A*) in the complete records of the candidates, including the records of their successful Preliminary Examinations, and (*B*) in their records at Final Examinations only:—

(<i>A</i>)	1895.	1896.	1897.	1898.	1899.	1900.
ELEMENTARY STUDIES.						
English	9.2	8	10.9	8.7	9.6	10.2
Greek	5	9.7	5.4	7.86	10.6	4
Latin	2.5	6.8	4.5	6.75	4.65	6
German	21	23.3	24.9	17.07	22.97	17.85
French	3	9.8	6.2	3.54	6.65	7.6
History (Ancient)	5	4.8	9.09	9.41	5	8.2
History (Modern)	10.2	9.6	17.1	7	10	7.44
Algebra	14.8	17.4	16.04	14.56	16.55	14
Geometry . . . . .	..	..	..	..	..	24
Plane Geometry	15.6	23.1	15.02	26.29	25.7	26.60
Physics (Descriptive)	41	48.1	28.7	27.05	47.37	25.67
Physics (Experimental)	11.6	14.1	16.9	12.65	18.53	18.44
Physiography . . . . .	..	..	..	..	..	11
Anatomy . . . . .	..	..	..	..	..	20
ADVANCED STUDIES.						
Greek	18	16.1	7.5	12.5	14.28	13.16
Latin	23.7	24.5	19.1	15.73	20	23.45
Greek Composition	19.3	21.6	22.8	16.06	20	10.56
Latin Composition	12.5	19.2	14.1	15.52	25.63	20.21
German	17.7	28.2	32.2	14.18	26.61	30
French	7.3	23.8	15.5	17.78	18.37	26.47
History . . . . .	..	..	..	..	..	41.66
Logarithms and Trigonometry	36.3	42.7	27.1	41.60	26.17	23.86
Solid Geometry	24.6	40.2	33.5	26.76	20.98	22.58
Analytic Geometry	30	50	27.7	50	23.53	30
Algebra	23.5	36.6	54.9	43.14	35	41.17
Physics	0	57.1	55.5	16.67	37.5	37.5
Chemistry	7	14.8	16.1	15.29	18.48	12
Astronomy . . . . .	..	..	..	..	..	100
Meteorology . . . . .	..	..	..	..	..	50

(B) ELEMENTARY STUDIES.			ADVANCED STUDIES.		
	1899.	1900.		1899.	1900.
English	15.85	13.83	Greek	16.77	14 —
Greek	41.8	13.5	Latin	25	23.75
Latin	21.42	18.75	Greek Composition . .	32.41	17.65
German	46.3	27.8	Latin Composition . .	42.26	29.72
French	21.65	18 —	German	30	37
History (Ancient) . .	14	20	French	29.44	33.76
History (Modern) . .	14.8	10.76	History . . . . .	..	41.66
Algebra	44.65	33.58	Log. and Trig. . . .	36.93	23.86
Geometry . . . . .	..	24.6	Solid Geometry . . .	31.25	26.25
Plane Geometry . . .	39.17	37.80	Analytic Geometry . .	26.66	50
Physics (Descriptive) .	40	29.23	Algebra	45.71	42.85
Physics (Experimental)	27	23 +	Physics	60	50
Physiography . . . .	..	11 +	Chemistry	23.61	12.38
Anatomy, etc. . . . .	..	20	Astronomy . . . . .	..	100
			Meteorology . . . . .	..	50

In the tables of this year I have treated Chemistry as an Advanced Study, though under the New Method it is Elementary.

Six hundred and eighteen candidates (exactly the same number as in 1899) took Preliminary Examinations; of whom four hundred and ninety-four (twenty-eight less than in 1899) received certificates:—

OLD METHOD.		NEW METHOD.	
Less than five hours	5	Eight points	16
Five hours	43	Nine "	2
Six "	80	Ten "	16
Seven "	91	Eleven "	3
Eight "	69	Twelve "	17
Nine "	40	Thirteen points	1
Ten "	32	Fourteen "	11
Eleven "	27	Fifteen "	1
Twelve "	9	Sixteen "	6
Thirteen hours	8	Seventeen "	1
Fourteen "	1	Eighteen "	7
Fifteen "	0	Nineteen "	2
Sixteen "	1	Twenty "	2
Received certificates	406	Twenty-one points	1
Failed	99	Twenty-three "	2
Total number of candidates . .	505	Received certificates	88
		Failed	25
		Total number of candidates . .	113

The next table gives the percentages of failure in Preliminary Studies. I take this opportunity of acknowledging a mistake in the percentage reported last year for Elementary Algebra. The true figures appear under 1899 in the table below:—

My next table, which gives the percentage of those who drop the Classics immediately on entering College, begins with the class of 1888, — the first class for which the Classics were not prescribed in the Freshman year. The extraordinary thing in this percentage is its fluctuation : —

1888.	1889.	1890.	1891.	1892.
10 +	8	18.3	15.8	28.5
1893.	1894.	1895.	1896.	1897.
30.4	35.2	15.6	40.8	33.4
1898.	1899.	1900.		
47.4	14.9	45.5		

My third table gives the percentage of those who took the Classics in the Freshman year and dropped them immediately after it. The percentage since 1891 has been reasonably constant : —

1886.	1887.	1888.	1889.	1890.
62.4	61.1	50	53.5	38 —
1891.	1892.	1893.	1894.	1895.
45.3	33 +	39.6	28.9	28.9
1896.	1897.	1898.	1899.	1900.
29.4	38.4	34	32.6	34.9

My fourth table gives the percentage of those who dropped Mathematics immediately on entering College. This percentage has been so large as to hint — though not to prove — that most Freshmen shrink from mathematical training. Such training, by the way, a non-mathematical man, requires under an elective system a deal of courage, since the teaching of Mathematics under an elective system cannot comfortably take into account the non-mathematical mind : —

1888.	1889.	1890.	1891.	1892.
40.6	41.5	25.6	22.1	33.4
1893.	1894.	1895.	1896.	1897.
41.3	40.1	42	56.6	56.9
1898.	1899.	1900.		
61.8	71.9	74.4		

My fifth table gives the percentage of those who began to specialize not later than the Sophomore year, — that is, of those who after the Freshman year took at least half their work in one department : —

1886.	1887.	1888.	1889.	1890.
13.2	29.3	23.7	22.5	22.5
1891.	1892.	1893.	1894.	1895.
21.4	15	16.5	25.6	26.8
1896.	1897.	1898.	1899.	1900.
23.8	17.7	26.5	10.9	27.8

(B) ELEMENTARY.		ADVANCED.	
English	21	Greek	54
Greek	146	Latin	47
Latin	181	Greek Composition	19
German	76	Latin Composition	38
French	148	German	24
History (Ancient)	81	French	36
History (Modern)	15	History	3
Algebra	199	Log. and Trig.	25
Geometry	1	Solid Geometry	24
Plane Geometry	39	Analytic Geometry	2
Physics (Descriptive)	8	Algebra	4
Physics (Experimental)	110	Physics	0
Physiography	1	Chemistry	23
Anatomy, etc.	0	Astronomy	0
	976	Meteorology	0
			299

(C) ELEMENTARY.		ADVANCED.	
English	6	Greek	0
Greek	87	Latin	3
Latin	91	Greek Composition	2
German	32	Latin Composition	2
French	35	German	6
History (Ancient)	37	French	10
History (Modern)	4	History	0
Algebra	47	Log. and Trig.	0
Geometry	1	Solid Geometry	4
Plane Geometry	5	Analytic Geometry	0
Physics (Descriptive)	1	Algebra	0
Physics (Experimental)	16	Physics	0
Physiography	0	Chemistry	3
Anatomy, etc.	0	Astronomy	0
	362	Meteorology	0
			30

The College insists that no candidate for admission shall divide his examination into more than two parts. A student admitted with conditions may make up those conditions one at a time; but the examination that admits to the Freshman class may be divided into two parts and no more. Thus a Preliminary candidate of one year cannot piece out in another year his Preliminary certificate. He may give up this certificate and try to get a better one; but if

he keeps the certificate he must, at his next examination, be a Final candidate or nothing. Nor may he, if he keeps it, be a postponing candidate. Nor may a student who enters a College class through the side door of the Special Students or the back door of the Lawrence Scientific School count for his admission any work done in the College or in the Scientific School if he counts more than one group of subjects passed at an admission examination. A candidate may have a five-hour Preliminary certificate, pass in five hours more, be rejected by the College, be accepted by the Scientific School, and make plans for transference to the College at the first opportunity. By his work at the University, he may cover a considerable part of the admission examination; but if he counts this work for admission purposes, he must throw out altogether one group of studies in which he has passed examinations for admission. He may count any two of the following sets of studies:—

(a) Studies for which he has a Preliminary certificate.

(b) Studies not covered by his Preliminary certificate but passed at his unsuccessful Final Examinations.

(c) Studies covered by courses taken at the University.

The combination of (a) and (b) he has already offered without success; he must, therefore, unless he takes Final examinations again, combine (a) and (c) or (b) and (c), deferring his admission till he has made (c) a group large enough for his purpose. Either (a) or (b) he must throw out altogether.

I have grave doubt whether the College should not lighten the burden of candidates by allowing a division of the examination into three parts. As things stand, the candidates must carry a large and varied load. Some might well be examined in certain Elementary Studies two years before their Final Examinations, piece out, in the following year, the Preliminary record thus obtained, and in the third year come to College, thoroughly equipped; others, taking Preliminary Examinations one year before Final Examinations and getting certificates for a few points only, might well become, in the next year, Postponing candidates. In general, permission to divide the examination into three parts would be a great relief to teachers and pupils and would, in my judgment, strengthen rather than weaken the preparation of our candidates.

The members of the Administrative Board of Harvard College for 1899–1900 were: The Dean of the College; Professors Greenough, de Sumichrast, Willson, C. P. Parker, Schilling, Grandgent, Coolidge, Johnson, and Gulick; Doctors F. N. Robinson and Palache; and Messrs. Nichols, Gardiner, Ward, C. H. C. Wright, and Cram.

In the course of the year the Board suspended one Sophomore and two Freshmen for dishonorable conduct, and closed the probation of one Senior, three Sophomores, and two Freshmen. The Faculty closed the probation of two Special Students and withdrew the privileges of two more, dismissed for dishonesty one Special Student and one Junior, and expelled for impersonating a Scientific Student at an examination a member of the class of 1900 whose degree had not been conferred on him. One Junior, seven Sophomores, and six Freshmen withdrew under more or less pressure.

The granting of leave of absence to about fifty Seniors who had completed, or nearly completed, the work required for the degree shows the increasing unwillingness among our students to spend four years in undergraduate work. If we add to the number on leave of absence the number from the same class who actually took the degree in three years, we see how heavy a loss to a single class the three-year tendency even now involves. Yet, with this steadily increasing loss of Seniors, the number of students in the College continues to advance. Thus we may fairly infer that when the normal period of residence at College becomes three years, the three College classes will contain nearly as many students as are now contained in four; and that in a little while the increased resort to the College will make up for the shortened period of residence.

At the beginning of the academic year, the Faculty of the Law School, abandoning with good reason the hope that the Faculty of Arts and Sciences would count toward the degree of A.B. either the whole or a part of the first year's work in the Law School, gave notice that after 1899-1900 no Senior on leave of absence from the College might depend on admission to a class in the Law School if he had any deficiency whatever in his work for the A.B. From the point of view of the Law Faculty, this act was a long delayed measure adopted only after many and vain attempts to interest a dilatory and uncompromising Faculty of Arts and Sciences in a scheme, satisfactory to the Law School, for lessening the age at which a lawyer becomes self-supporting; from the point of view of the Faculty of Arts and Sciences, it was an unlooked for attempt to force on the College a three-year degree in the interest of Law; and from the point of view of those Juniors who were ready for any scheme of "telescoping" the last year in College with the first year in the Law School, and who had planned their work with the old precedents in mind, it was a sudden and iniquitous crushing between the upper and the nether millstone. At the end of the year the Faculty of Arts and Sciences, believing that the notice to students had been too short, arranged a scheme whereby, in 1900 only, stu-

dents whose deficiency for the degree of A.B. was not more than a course and a half might do in the summer work to the amount of their deficiency and might receive credit for such work.

Though in most respects the tone of the undergraduates has improved within the last few years, there is no decrease in the tendency to offer excuses in place of duty promptly done. Our students are an exceptionally healthy set of men; but a good many of them are inclined to neglect recitations and lectures, on the score of this or that small ailment, such as nobody who regarded College work as serious would consider for a moment. These students fail to see, first, that it is a man's business to keep himself fit for his business and, next, that the work of the world is done, in large measure, by men and women whose throats and heads and stomachs do not feel exactly right, but who do their appointed tasks and in doing them forget their throats and heads and stomachs. It is melancholy to see able-bodied youths the victims of diseases which permit all pleasures and forbid all duties; it is almost equally melancholy to see how they spell the names of the diseases with which they are perfunctorily afflicted.

In accordance with a vote of the Faculty, the Committee on the Publication of Academic Distinctions in Harvard College held, in December, its first formal meeting in honor of high scholarship. Since the meeting was experimental, the Committee thought best to hold it in a hall of moderate size and to admit none but invited guests. Invitations were sent to every living winner of a Bowdoin Prize, to every student whose name was printed in the pamphlet edited by the Committee, to the President and Fellows of Harvard College, to the Board of Overseers, to the Faculty of Arts and Sciences, to a few other University officers, to the Presidents of the College classes, to the Governor of Massachusetts, to the Mayor of Cambridge, to the Head Masters of the schools and Presidents of the colleges from which the scholars of the First and Second Groups for 1899-1900 had entered Harvard College; to the Harvard Glee Club, and to certain representatives of the press. At this meeting Deturs were presented to all members of Group I who had not received them in an earlier year; and addresses were made by President Eliot and Dr. William Everett. The committee believes that the meeting was successful, and that a meeting in Sanders Theatre open to invited guests and to the public would be more successful still.

Forty-eight students, against forty-two in 1898-99, won a position in the First Group of holders of scholarships: —

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Per cent. of the whole class who won degrees with distinction, in —															
Category I	5	5.8	5.9	5.5	10	6.5	12.9	5.4	8.2	7.3	9.4	7.6	7.7	15.7	9.6
Category II	*	*	4.6	1	6.2	4	12	10.4	10.2	12.8	10.8	12.6	12.2	11.9	15.5
Category III	30	31.1	20	21.5	14.7	19.4	14.5	13.3	13.1	14.3	15.3	14.1	11.6	12.7	14.9
Category IV	*	*	17.3	17.5	10.5	13.4	13.3	15.8	12.8	14.3	23.5	19.3	18.3	25.1	28.2
Category V	8.2	19.1	15.1	13	13.2	11.7	10	8.6	12.8	11.9	12.9	7.6	15.2	4.7	14.6
Category VI	2.3	2.2	5	5.5	3.1	2.8	2.8	3.6	2.6	1.5	4.7	5.7	3.3	6.9	11.5
Category VII	32.4	24.4	14.7	19	16.3	20.6	20—	19.1	19.1	18.6	22	20.2	11.3	7.9	12.9
Per cent. of the whole class who won degrees without distinction, in —															
Category I	30	19.5	21.5	9	18.6	17.8	21	26.2	18.4	18	17.9	20.5	22.1	39.3	23.4
Category II	*	*	5.5	7	12	11.8	16.5	20	25	28	30	20.9	35.2	30	30
Category III	32.4	30	30	32	23.2	25.9	18.5	26.2	15.8	14.6	14.1	24.3	22.4	19.9	20
Category IV	*	*	23.2	24	15.1	9.7	20.2	25.5	27.3	27.7	33.1	37.6	43.5	46.8	46.2
Category V	5+	10.2	8.7	9.5	9.3	9.7	5	7.9	12.8	14.9	10.9	10.1	11.3	6.2	13.2
Category VI	1.4	2.7	1.4	.5	2	1.2	3.6	2.5	1.6	1.8	8.5	5.7	8.3	12.9	8.2
Category VII	15	17.3	27	31.5	23.6	30.4	27	26.6	23.7	24.7	28.1	23	26	7.2	16.6

CLASS.	NAME.	SCHOLARSHIP.	HOME.	SCHOOL.
'02	Clarence Whitman Hobbs, Jr.	John Harvard	Worcester	Worcester High School.
'01	Harry Bevier Kirtland	"	Plymouth, O.	Hale School, Boston.
'01	Samuel Jacob Kornhauser	Bigelow	Pittsburgh, Pa.	Cleveland, O., Central High School.
'00	Aubrey Edward Landry	Price Greenleaf	Memrancook, N. B.	Boston Latin School.
'02	Roger Irving Lee	Bowditch	Peabody	Peabody High School.
'01	Maurice Lawrence McCarthy	Price Greenleaf	Haverhill	Haverhill High School.
'01	Gilbert Holland Montague	"	Springfield	Springfield High School.
'02	Charles Green Montross	Bowditch	Montclair, N. J.	Montclair, N. J., High School.
'02	Edmund Morris Morgan, Jr.	"	Youngstown, O.	Rayen School.
'00	William Morrow	"	Philadelphia, Pa.	F. B. Brandt, Private Tutor.
'02	Arthur Stanley Pease	"	Andover	Phillips Academy, Andover.
'01	Torsten Peterson	Price Greenleaf	Lynn	Lynn Classical High School.
'00	Albin Leal Richards	Lady Mowleon	Cambridge	Cambridge Latin School.
'00	Christopher George Ruess	Bowditch	Los Angeles, Cal.	Los Angeles, Cal., High School.
'00	Henry Latimer Seaver	Price Greenleaf	Dorchester	Boston Latin School.
'01	Flavel Shurtleff, Jr.	Warren H. Cudworth	East Boston	Boston Latin School.
'02	William Earle Stilwell	Class of 1856	Fayetteville, N. Y.	Phillips Academy, Andover.
'01	Michael Augustine Sullivan	Price Greenleaf	Lawrence	Phillips Academy, Andover.
'01	Stanley Powers Thomas	Bowditch	Peabody	Auburn, Me., Ed. Little High School.
'00	Charles Marshall Underwood	Price Greenleaf	South Dennis	B. M. Sheridan, Private Tutor.
'01	Roland Greene Usher	John Harvard	Grafton	Grafton High School.
'00	Walter Gustavus Waitt	Bowditch	Boston	Boston English High School.
'02	Alain Campbell White	John Harvard	New York, N. Y.	Blake's School, New York, N. Y.
'00	Henry Aaron Yeomans	"	Spokane, Wash.	Spokane, Wash., High School.

Of the forty-eight, twenty-one belonged to the class of 1900, thirteen to the class of 1901, and fourteen to the class of 1902; four had been in the First Group of 1898-99 and in that of 1897-98, and nine in the First Group of 1898-99 only. Of the forty-eight, Massachusetts contributed twenty-nine; New York, five; Pennsylvania, three; Ohio, two; Vermont, Connecticut, New Jersey, Missouri, Nebraska, California, Washington, New Brunswick, and Spain one each. The preparatory sources represented are thirty-five: the Boston Latin School appears six times in the list (a remarkable score); Phillips Academy, Andover, four times; the Boston English High School, three times; the Cambridge Latin School, the Roxbury Latin School, and the Newton High School, twice each.

As soon as the large and beautiful parlor of Phillips Brooks House was ready for use, Mrs. Eliot, Mrs. C. L. Smith, Mrs. E. C. Pickering, Mrs. Shaler, and a few other ladies whose husbands are officers of the University arranged a series of Friday afternoon teas for students. They sent out no formal invitations, but made known through the weekly Calendar, through the daily *Crimson*, and through divers teachers of large College courses, their wish to meet socially any and all students who wished to meet them. Different ladies helped them receive the students on different days; and several members of the Faculty served as ushers. Students came in their everyday clothes, on their way from lectures or to the Gymnasium, and came as often as they pleased. A good many undergraduates looked askance at this method of entertaining students; but when they had themselves attended one or two of the teas, they seemed to change their view. Certainly those Friday afternoons did something to dispel the loneliness of the shy newcomer, who, though with difficulty persuaded to come once, was more than ready to come again; they gave some students what every student needs, the society of cultivated women; and they brought different kinds of students wholesomely together. The attendance, though small in the Mid-year period when the earlier teas were provided, was, at the last meeting, quite large enough, even for so large a room; and the teas bid fair to be an institution.

In the President's Report for the year 1884-85, there appeared a table showing what studies each member of the class of 1885 had elected after his Freshman year (in which all studies were prescribed); and from that table, the President inferred, by reasoning which seems conclusive, that the elective system, as used by the class of 1885,

had been used intelligently. In 1884, — that is, in the Freshman year of the class of 1888, — a new responsibility was put on the undergraduates by the abolition in the Freshman year of all prescribed work except Rhetoric (transferred from the Sophomore year) and, for students who had entered with only one modern language besides English, either French or German. Certain lectures in Chemistry and Physics were prescribed also; but in these subjects the requirement was so slight that it may be disregarded. The change was notable in two ways: first, as an abandonment of prescribed Classics and Mathematics and of any serious requirement in Physics; and, next, as an abandonment of the theory that Freshmen, coming from all sorts of schools and from all parts of the country need to be put through one mill — to be “shaken together” as it were — before they can use discreetly the elective system of a university. Many instructors felt then, as some do now, that the year of assimilation in studies, of prescribed discipline (alike, or nearly alike, for all), of strong class feeling, and of united College experience, had a value of its own; and that the Freshmen who had been through such a year were more likely to use their freedom with intelligence than the Freshmen who at the very outset of their new and bewildering life found themselves face to face with the labyrinthine attractions of the elective pamphlet. An excellent scholar in the class of 1893 declared, at the end of his Freshman year, that if he should elect nothing but what was absolutely necessary, and should elect five courses a year, he should get through in just nineteen years. Such perplexity of choice, bad as it is for a student of a year’s experience, seems far worse for a Freshman.

In the somewhat misty light of these considerations, we may contemplate certain statistics of the use to which the elective system was put by the various College classes between, and including, the classes of 1886 and 1900. It might seem well to give, in these statistics, the number of men in each class who chose what are known as “soft courses” or “snaps,” and chose them to avoid work. This brings up at once the question, “What is a soft course?” and the further question, “May not the choice of such a course be wise?” A soft course is a course in which it is easy to secure a pass-mark (*D*) or an average mark (*C*); in other words, it is a course in which a lazy man gets through without much work. For a good student, who aims at a high mark, it may be the hardest course in College. Some years ago, in one of our softest courses — a course chosen by four hundred students of all degrees of earnestness — not one man failed and only one man got *A*. A soft course,

again, is generally a course in culture, and owes its value chiefly to the personal quality of the teacher who conducts it. Some courses, when newly established, are soft because the instructor has miscalculated their difficulty or has not had enough assistants to keep track of the students' work; but such courses are seldom soft after the first year or two. Some courses are moderately soft for students who avail themselves of clever coaches; but these courses cover a good deal of ground and demand considerable knowledge, even though the knowledge be transient. The persistently soft courses are so few that no student can make up a curriculum from them, and so interesting that anybody may legitimately choose them. Several courses attract hundreds of students, not because they are soft (for they are not soft) but because they give elementary instruction in subjects which few men nowadays are willing to be without. Such, for example, are History 1, Government 1, and Economics 1. It is quite impossible to furnish accurate statistics of people's motives: doubtless a few students pick out as many soft courses as they can; others pick out courses with morning hours and save their afternoons for athletics; and others take single soft courses along with excessively hard ones. I can only say that, after nine years' experience in the Dean's office, I believe the thoroughgoing and professional "snap-hunter" a much rarer being than the public thinks him. He is one of the stock characters in undergraduate fiction, just as "Hard Money and Soft Electives" is one of the stock transparencies in undergraduate torchlight processions; he probably does exist in the flesh: but he is oftener what a foolish boy likes the reputation of being than what this same foolish boy really is. As a rule, the weakest of our students have intellectual interests even if they are half ashamed of them, and choose a good many of their courses with these interests in view.

My first table of statistics shows what percentage of each class* chose little or nothing but elementary work throughout their College course. In connection with this table, it must be borne in mind that under a prescribed system nearly all instruction was elementary, and that the wish for a wide, cultivating, general education justifies a variety of elementary choices:—

1886.	1887.	1888.	1889.	1890.
35 +	25.3	27.4	14.5	27.8
1891.	1892.	1893.	1894.	1895.
25.1	33.9	31.6	26.6	25.3
1896.	1897.	1898.	1899.	1900.
27.3	28.1	29.8	55	33

* In the following statistics, a "class" consists of those members only who have spent at least three years in the University.

My next table, which gives the percentage of those who dropped the Classics immediately on entering College, begins with the class of 1888, — the first class for which the Classics were not prescribed in the Freshman year. The extraordinary thing in this percentage is its fluctuation : —

1888.	1889.	1890.	1891.	1892.
10 +	8	18.3	15.8	28.5
1893.	1894.	1895.	1896.	1897.
30.4	35.2	15.6	40.8	33.4
1898.	1899.	1900.		
47.4	14.9	45.5		

My third table gives the percentage of those who took the Classics in the Freshman year and dropped them immediately after it. Here the percentage since 1891 has been reasonably constant : —

1886.	1887.	1888.	1889.	1890.
62.4	61.1	50	53.5	38 —
1891.	1892.	1893.	1894.	1895.
45.3	33 +	39.6	28.9	28.9
1896.	1897.	1898.	1899.	1900.
29.4	38.4	34	32.6	34.9

My fourth table gives the percentage of those who dropped Mathematics immediately on entering College. This percentage has become so large as to hint — though not to prove — that most Freshmen shrink from mathematical training. Such training, by the way, for a non-mathematical man, requires under an elective system a good deal of courage, since the teaching of Mathematics under an elective system cannot comfortably take into account the non-mathematical mind : —

1888.	1889.	1890.	1891.	1892.
40.6	41.5	25.6	22.1	33.4
1893.	1894.	1895.	1896.	1897.
41.3	40.1	42	56.6	56.9
1898.	1899.	1900.		
61.8	71.9	74.4		

My fifth table gives the percentage of those who began to specialize not later than the Sophomore year, — that is, of those who after the Freshman year took at least half their work in one department : —

1886.	1887.	1888.	1889.	1890.
13.2	29.3	23.7	22.5	22.5
1891.	1892.	1893.	1894.	1895.
21.4	15	16.5	25.6	26.8
1896.	1897.	1898.	1899.	1900.
23.8	17.7	26.5	10.9	27.8

The notion that the elective system encourages students to specialize too little can arise only from the great variety of studies in which it is possible to take elementary courses; the notion that it encourages them to specialize too much arises obviously from the fact that after the Freshman year, in which freedom of election is somewhat limited, a student may take nearly all his work in any one department that offers courses enough. Certainly the foregoing table does not prove that, under the conditions of modern professional life, the elective system in Harvard College is abused through early specialization.

My sixth table gives the percentage of those who in their Junior year began specializing and who specialized to the end, but whose specializing was not exclusive. In this category are found those whose Junior work consisted of allied subjects, such as History and Economics, and those who relieved their *ἔργον* or job with a *πάρεργον* or side-job — taking, for instance, Chemistry as their “shop-work” with perhaps one course a year in Fine Arts for a restful and cultivating change. These kinds of specialization after somewhat varied elementary work seem among the most rational; and, though the percentage is not yet high, they are gaining: —

1886.	1887.	1888.	1889.	1890.
3.7	4.9	6.4	6	5.1
1891.	1892.	1893.	1894.	1895.
4+	6.4	6.1	4.3	3.3
1896.	1897.	1898.	1899.	1900.
13.2	11.4	11.6	19.8	19.7

My seventh table gives the percentage of those who (without specializing, in any strict sense of the word) did nevertheless considerable amounts of rationally connected work. In this category are found persons who followed two subjects, not allied, for three years each without specializing in either, those who thus followed one subject for three years and another for two, and those who studied a number of subjects of which all or most are allied — several languages, for example, or Mathematics, Physics, Chemistry, and Engineering. This category, as might be expected, is large: —

1886.	1887.	1888.	1889.	1890.
47.4	41.8	41.6	50.5	39.9
1891.	1892.	1893.	1894.	1895.
51	47	45.7	42.7	43.3
1896.	1897.	1898.	1899.	1900.
50.1	43.2	37.3	15.1	29.5

Taken together, the fifth, sixth, and seventh of the foregoing tables seem to show in the majority of students, a reasonable continuity of work.

Clearly, not all the seven categories represented in the tables are mutually exclusive; clearly, also, other categories might be devised as instructive as these: each of these, however, illustrates some one important use of the elective system. The next table (Group I, p. 121) shows what percentage each category contains of the students who graduated with distinction (*cum laude*, *magna cum laude*, or *summa cum laude*).

Certainly, the table called Group I (as applied, for example, to the class of 1900) does not support the theory that those who dropped Mathematics and the Classics immediately on entering College are weaklings. One must take into consideration, however, what percentage of the whole class dropped these studies (74.4 for Mathematics and 45.5 for the Classics); also what percentage each category contains of the students who graduated without distinction. This latter percentage appears under IV and II of the table called Group II (p. 122). I add a table (p. 123) to show what percentage of the whole class in each category graduated with distinction and what percentage without distinction.

These tables do not furnish material for an exhaustive study of the elective system at Harvard College; in the question how long before coming to College a boy should choose his own studies they are non-committal; nor do they prove conclusively the value of an elective Freshman year. On the other hand, they do support the belief that, as a body, the students of Harvard College use the elective system with some sense of responsibility and with reasonable intelligence. This belief is further supported by what the students themselves say in their talks with College officers and with each other. Many of the better students plan their work years ahead; and many whose record in study is mediocre show a genuine desire to choose their studies well. Some Freshmen are bewildered by the variety that is offered to them, and in the awkwardness of a first interview with their Advisers may seem worse bewildered than they really are; some older students would choose their courses earlier if they could get earlier the list of courses to choose from; and some hand-to-mouth persons never know what to choose till they have chosen it: but these evils would not, so far as I can see, be obviated by what is called group system of elective courses. The objections to a group system were pointed out by the President in
(Continued on page 124.)

GROUP I.

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Per cent. of the whole class who graduated with distinction	47.9	51.1	41.	41.5	42.6	41.3	44.7	37.	43.1	40	42.8	42.3	34.9	36.3	38.6
Whole number in the class who graduated with distinction	105	115	90	83	110	102	112	103	131	131	146	138	126	146	137
<i>Per cent. of those who graduated with distinction, contained in the following categories:—</i>															
I. Those who chose little or nothing but elementary work throughout	10.5	11.3	14.4	13.2	23.6	15.7	28.6	14.6	19.1	18.3	21.9	18.7	21.4	43.1	24.8
II. Those who dropped the Classics immediately on entering College	*	*	11.1	2.4	14.5	1	26.8	28.1	23.7	32.1	25.3	29.7	34.9	32.9	40.1
III. Those who took the Classics in the Freshman year and dropped them immediately after it	61.9	60.9	48.9	51.8	34.5	47	32.1	35.9	30.5	35.9	36.3	33.3	33.3	34.9	38.7
IV. Those who dropped Mathematics immediately on entering College	*	*	42.2	42.2	24.5	32.3	29.5	41.7	29	35.9	54.8	45.6	52.5	69.2	72.9
V. Those who began to specialize not later than the Sophomore year	17.1	37.4	36.7	31.3	30.9	28.4	22.3	23.3	29	29.8	30.1	18.1	43.6	13	37.9
VI. Those who began to specialize in the Junior year but did not specialize exclusively	4.8	4.3	12.2	13.2	7.3	6.9	11.6	9.7	6.1	3.8	10.9	13.8	9.5	19.2	10.2
VII. Those who (without specializing, in the strict sense) did a good deal of rationally connected work	67.6	47.8	35.5	45.8	38.2	50.	43.7	51.4	44.3	46.6	51.4	47.8	32.5	21.9	38.6

GROUP II.

	1886.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Per cent. of the whole class who received degrees without distinction	52.1	48.9	59.	58.5	57.4	58.7	55.3	63	56.9	60	57.2	57.7	65.1	63.7	61.4
Whole number in the class who graduated without distinction	114	110	129	117	148	145	136	175	173	197	195	188	235	256	218
<i>Per cent. of those who graduated without distinction, contained in the following categories:—</i>															
I. Those who chose little or nothing but elementary work throughout	57.9	40.	36.4	15.4	31.1	30.3	38.2	41.7	32.4	30	31.2	35.6	33.6	61.7	36.1
II. Those who dropped the Classics immediately on entering College	*	*	9.3	11.9	20.9	20	30.1	31.4	43.9	46.7	52.3	37.2	54	47.3	48.6
III. Those who took the Classics in the Freshman year and dropped them immediately after it	62.3	60.	49.6	54.7	40.5	44.1	33.1	41.7	27.7	24.4	24.6	41.5	34.5	31.2	32.6
IV. Those who dropped Mathematics immediately on entering College	*	*	39.5	41+	26.3	16.5	36.8	40.6	47.9	46.2	57.9	61.7	66.9	73.4	75.2
V. Those who began to specialize not later than the Sophomore year	9.6	20.9	14.7	16.2	16.2	16.5	8.8	12.6	21.9	24.9	18.9	17.5	17.4	9.1	21.5
VI. Those who began to specialize in the Junior year but did not specialize exclusively	2.6	5.2	2.3	.08	3.4	2.1	2.2	4	2.9	3	14.9	10.1	12.8	20.3	13.3
VII. Those who (without specializing, in the strict sense) did a good deal of rationally connected work	29.8	35.4	45.7	53.8	48	51.7	49.3	42.3	41.6	41.1	49.2	39.4	40	11.3	27.1

	1884.	1887.	1888.	1889.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Per cent. of the whole class who won degrees with distinction, in —															
Category I	5	5.8	5.9	5.5	10	6.5	12.9	5.4	8.2	7.3	9.4	7.6	7.7	15.7	9.6
Category II	*	*	4.6	1	6.2	4	12	10.4	10.2	12.8	10.8	12.6	12.2	11.9	15.5
Category III	30	31.1	20	21.5	14.7	19.4	14.5	13.3	13.1	14.3	15.3	14.1	11.6	12.7	14.9
Category IV	*	*	17.3	17.5	10.5	13.4	13.3	15.8	12.8	14.3	23.5	19.3	18.3	25.1	28.2
Category V	8.2	19.1	15.1	13	13.2	11.7	10	8.6	12.8	11.9	12.9	7.6	15.2	4.7	14.6
Category VI	2.3	2.2	5	5.5	3.1	2.8	2.8	3.6	2.6	1.5	4.7	5.7	3.3	6.9	11.5
Category VII	32.4	24.4	14.7	19	16.3	20.6	20—	19.1	19.1	18.6	22	20.2	11.3	7.9	12.9
Per cent. of the whole class who won degrees without distinction, in —															
Category I	30	19.5	21.5	9	18.6	17.8	21	26.2	18.4	18	17.9	20.5	22.1	39.3	23.4
Category II	*	*	5.5	7	12	11.8	16.5	20	25	28	30	20.9	35.2	30	30
Category III	32.4	30	30	32	23.2	25.9	18.5	26.2	15.8	14.6	14.1	24.3	22.4	19.9	20
Category IV	*	*	23.2	24	15.1	9.7	20.2	25.5	27.3	27.7	33.1	37.6	43.5	46.8	46.2
Category V	5+	10.2	8.7	9.5	9.3	9.7	5	7.9	12.8	14.9	10.9	10.1	11.3	6.2	13.2
Category VI	1.4	2.7	1.4	.5	2	1.2	3.6	2.5	1.6	1.8	8.5	5.7	8.3	12.9	8.2
Category VII	15	17.3	27	31.5	23.6	30.4	27	26.6	23.7	24.7	28.1	23	26	7.2	16.6

THE LAWRENCE SCIENTIFIC SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—In reports of former years attention has been repeatedly called to the long existing need of adequate housing for the departments of Engineering, Mining, Geology, and Architecture. The numbers attending these departments have long outgrown the limited quarters assigned to them. Buildings now under way promise that with the beginning of the next academic year sufficient provision will be made for the teachers and students in those departments. Although these long existing deficiencies are about to be remedied, the steadily increasing demand upon the laboratories of the University has brought about a like difficulty in the case of the department of Chemistry. The establishment in Boylston Hall is already insufficient to afford places for all the students who seek instruction there. It is true that the students of the Lawrence School who are candidates for a degree, have, up to the present time, been adequately provided for. It is, however, evident that Special students, both those in the College and in the School, will soon have to be excluded from the elementary courses in Chemistry unless additional room for instruction in those courses is found. Inasmuch as many students enrolled as Specials resort to us especially to study Chemistry, and as the instruction in that department cannot be obtained in the fitting schools, this restriction would be most unfortunate.

The most notable addition to the resources of the Lawrence School is to be found in the programme in Landscape Architecture, which was formally announced during the last academic year. The institution of systematic work in this programme was due to the presence in the University of a number of men who were endeavoring to obtain a training in the subject. Although the announcement of the new programme was very recently made, eleven students have entered upon it, and the classes, including students from the College, number over fifty persons.

The effect that the greater demands for entrance is to have on the numbers attending the School is not yet clear, as will be seen by the appended tables. There has been a diminution this year in the number of students entering by way of the entrance examinations as candidates for the degree. This decrease, however, has been overcome by the increase in the proportion of Special students who, after

a year or more of work, have attained regular standing, and by the larger resort to the School of men coming from other institutions. Moreover, the decrease in the number of regular students has taken place in the programme of General Science. The men thus classified, in many instances, belong to the College. It is to be expected that as the requirements are raised these men will more and more find their way to the academic side of the University. The facts that in the College they are exempt from the mathematical requirements of the first year in the Scientific School, that they are entirely free to elect their studies, and that they may obtain the degree of A.B. on the completion of fewer courses, will doubtless direct them to the College. This result will not be altogether disadvantageous to the School, as it will make the body of students more homogeneous.

The choice of examination subjects from the optional list indicates a disposition on the part of candidates, or of their school masters, to select Latin and Greek rather than subjects in Natural Science. This is probably due, in part at least, to the fact that although the proportion of students from the public high schools is increasing, the larger number still come from schools which are designed to fit their pupils for college. It is evident that under the existing scheme of entrance requirements it is somewhat easier for schools to prepare candidates by training them in Elementary and Advanced Greek and Latin, than by training them in Advanced French and German, Trigonometry, Shop Work, etc., to the extent which will secure the required number of "points." Some indirect compensation for this difficulty is to be found in the fact that the advanced subjects in Modern Languages, Mathematics, etc., not only count for admission, but replace courses prescribed in several of the programmes, thus diminishing the amount of study required for graduation.

As will be seen from the appended tables, the proportion of Special students to those in regular standing, which has for some years been diminishing, has this year been slightly increased. This trifling increment is due to the fact that a number of students have been admitted to the group of Specials, who almost attained the number of "points" required in the admission examinations for admission to regular standing. The improvement in the quality of the men in this group of students is indicated by the fact that, in the graduating class of 1900, the proportion of those who, entering as Specials, succeeded in obtaining regular standing and the degree, was as large as the proportion of those who were admitted by examination. The statistics of the School also show, that the number of men who enter by transferring themselves from other scientific schools and colleges

is increasing with some rapidity. In most instances these transfers are evidently due to a desire for improved opportunities of study, but this course appears to be occasionally taken in order to avoid the severe entrance examinations. By joining some college or scientific school where the entrance tests are less strenuous, or where indeed admission may be obtained on school certificates, and then successfully completing a year or more of work in such an institution, a student may attain this end. He commonly has to enter a lower class than that which he leaves, but he may win his degree with us in the same length of time as if he had directly entered the School. So far the results of this method of entering by transfer from other schools have been satisfactory. The average quality of the men thus entering has been excellent.

By comparing the records of registrations of this and former years, it will be seen that some diminution in the number of those attending the programme in General Science has taken place. The total number continues to show an increase, though it is this year but slight. In 1899-1900 the gain was 80. In the present academic year it will not exceed 20. At first sight this reduction in the rate of increase would seem to be due to the added requirements for entrance. A further examination of the tables will show that during the last decade, though each year has shown a gain in numbers, the rate of growth has been extremely irregular. Alternations of like kind are observable in other schools of this University and elsewhere; I have endeavored to ascertain their cause, but without success. It is, however, evident that the variations are not due to sudden accessions from particular schools or those of any one part of the country; nor is it to be explained by variations in the extent to which the School has been brought to the attention of the public.

The discipline of the School has been easily maintained, with relatively little use of serious penalties. A student was suspended for handing in work which was not entirely his own. 54 have been placed on probation for inadequate performance of duty, and 89, including those placed on probation, were not promoted because of entrance conditions that had not been cleared away, or because the record of the year's work was unsatisfactory. 22 Special students were denied readmission or were required to attain regular standing by passing the entrance examinations.

The most satisfactory feature in the condition of the School is the noteworthy absence of need of discipline because of any kind of vice. At present the only considerable difficulty in the administration of the School, beyond that of forcing a certain small proportion of its

students to do their duty by their tasks, arises from a somewhat common disposition to exaggerate the importance of slight illness, and to refrain from work, when, under like conditions, in actual life they would not do so. This evil is probably in some measure due to the great amount of medical care to which well-to-do people in this day are subjected, and to the disposition of physicians to be cautious in treating maladies which appear at first sight to be unimportant. The good effects of this system are to be found in a remarkable exemption from cases of serious maladies; the evil, in excessive attention to trifling indispositions. As we may in a measure trust to the demands of business life to clear away any excessive disposition to over caution in matters of health, the advantages of this system clearly outweigh its evils.

All cases of illness among the students of the School are now promptly reported to the Medical Adviser, who, if they appear to require treatment, sees that they are cared for by a physician selected by the patient, or designated by his parents or guardian. When the sufferer is not lodged at home he is visited by the Dean of the School. The long existing troubles arising from the difficulty of properly caring for the sick in College dormitories or private lodgings are about to be cleared away through the provision of an infirmary with a diet kitchen, which will provide suitable food when a patient is not so ill that he should be taken from his room. The classification of cases into those of some gravity which should go to the hospital, and those of little importance, which will be brought about by the use of the infirmary, is likely to diminish the evil of signing off on the part of men who are but slightly unwell and who should be about their tasks. It should be said that the above noted valetudinarian habit does not affect more than about one-twentieth of the members of the School. It evidently does not develop with us, but is inculcated in the homes whence the youths come. In most instances it disappears during the first year or two of residence in the University.

SPECIAL STUDENTS.

Number of years in attendance.	1899-1900.	1900-01 to Nov. 26.
One	43	53
Two	22	14
Three	10	10
Four	4	5
Five	1	0
Totals	80*	82

* This does not agree with the L. S. S. catalogue because of different dates of counting.

STATISTICS OF ATTENDANCE.

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REGISTRATION BY CLASSES IN L. S. S. CATALOGUE.

Class.	1899-1900.	1900-01 to Nov. 26.
Fourth-Year	60	69
Third-Year	73	65
Second-Year	107	136
First-Year	177	155
Specials	78	82
Totals	495	507

In 1899 there was, also, one Fifth-Year student.

REGISTRATION FOR ADMISSION EXAMINATIONS.

Year.	Preliminary.	Final.	Total.
1899	89	246	335
1900	104	275	379

DISTRIBUTION OF STUDENTS IN FOUR-YEAR PROGRAMMES.

Programme.	1899-1900.	1900-01 to Nov. 26.
Civil Engineering	53	62
Mechanical Engineering	62	64
Electrical Engineering	42	42
Mining and Metallurgy	32	42
Architecture	35	26
Landscape Architecture	1	11
Chemistry	18	21
Geology	4	6
Biology	5	10
Anatomy, etc.	39	31
Teachers of Science	17	22
General Science	188	170
Totals	496	507

N. S. SHALER, *Dean.*

THE GRADUATE SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — As Dean of the Graduate School I have the honor to present my report upon the School for the academic year 1899–1900.

The members of the Administrative Board for the year were Professors Toy, Jackson, Davis, Byerly, Warren, B. O. Peirce, von Jagemann, Hart, Kittredge, and Münsterberg, and the Dean of the School. The new members were Professors Toy and Warren, replacing Professors White and Wolff, who were absent from the University on leave. Professor Kittredge continues to be Secretary of the Board.

The Board held eleven meetings, on an average twice a month, with the exception of the winter months, in which but one meeting was held each month. The ordinary routine business of the Board was the admission of students to the School and to candidacy for the higher degrees, action on programmes of courses offered by students for the degree of Master of Arts, and consideration of various petitions and inquiries; one case of discipline came before the Board in the course of the year, the first within five years. The action of the Board on two matters of a more general nature, with the recommendations to the Faculty, are given on a later page.

Much information about the membership and character of the School may be given in tabular form. As these Tables for the most part explain themselves, my remarks upon them will be brief.

- I. Number and classification of students (resident and non-resident; students doing full or partial work; fields of study; length of connection with the School; holders of Bachelor's and of the higher degrees): 1897–98, 1898–99, 1899–1900.
- II. Colleges and Universities represented, with Degrees held: 1899–1900.
- III. Colleges and Universities represented by four or more graduates in the School: 1896–97, 1897–98, 1898–99, 1899–1900, 1900–01.
- IV. Migration of Graduate Students.
- V. Birthplaces of Graduate Students: 1896–97, 1897–98, 1898–99, 1899–1900.
- VI. Residences of Graduate Students: 1899–1900.
- VII. Recommendations for Degrees in 1898, 1899, 1900.
- VIII. Divisions and Departments in which recommendations for the Higher Degrees were made in 1900.
- IX. Age of Graduate Students recommended for the Degrees of Master of Arts and Doctor of Philosophy: 1900.
- X. Age of Doctors of Philosophy created in 1897, 1898, 1899, 1900.
- XI. Fellowships and Scholarships: numbers and classification of applicants and appointees in 1898–99, 1899–1900, 1900–01.

STUDENTS.

The number of students registered in the Schools for 1899-1900 was three hundred and forty-one. This does not include a few persons who were in the School for a period of less than six weeks at the opening of the year.

TABLE I.—NUMBER AND CLASSIFICATION OF STUDENTS.

	1897-98.	1898-99.	1899-1900.
Resident Students doing full work in the School for the whole academic year	171	218	227
Resident Students not doing full work or not working for the whole year as resident students . . .	107	103	99
	278	321	326
Non-Resident Students holding fellowships	15	12	13
Non-Resident Students not holding fellowships . .	0	3	2
	15	15	15
Students whose studies chiefly lay in *			
I. Semitic Languages and History	2	3	0
II. Ancient Languages (Classics and Sanskrit) . .	39	47	55
III. Modern Languages (including Comparative Literature)	71	80	83
IV. History and Political Science	43	54	54
V. Philosophy (including Education)	45	52	48
VI. Fine Arts (including Architecture)	1	4	4
VII. Music	1	1	1
VIII. Mathematics	14	19	12
IX. Engineering	4	0	4
X. Physics	16	15	10
XI. Chemistry	17	19	17
XII. Biology	22	25	21
XIII. Geology	9	9	10
XIV. American Archaeology and Ethnology . . .	4	1	3
Unclassed Students	5	7	19
	293	336	341
First-year Students	149	186	181
Second-year Students	78	72	85
Third-year Students	43	44	38
Fourth-year Students	21	20	24
Students in a fifth or later year	7	14	18
	293	336	341
A.B.'s and S.B.'s of Harvard University and of no other institution	90	118	101
A.B.'s and S.B.'s (and holders of similar degrees) of other institutions and also of Harvard University	41	34	33
Students not holding the Harvard degree of A.B. or S.B.	162	184	207
	293	336	341
Students holding the Harvard degree of A.M., S.M., Ph.D., or S.D.	96	102	108
Students holding the Harvard degree of A.B. or S.B., but not of A.M., S.M., Ph.D., or S.D. . .	80	97	84
Students holding no Harvard degree in Arts, Philosophy, or Science	117	137	149
	293	336	341

* For detailed statistics as to the number of Graduate Students enrolled in the various courses of instruction offered by the Faculty of Arts and Sciences, see the Report of the Dean, pp. 52-56.

Admission to the Graduate School is ordinarily granted to holders of the Bachelor's degree of good colleges and to a few other persons of maturity. Recent graduates of colleges, where the course of study would not secure admission at least to the Senior Class of Harvard College, with or without conditions, and men from unknown colleges are commonly not admitted to the Graduate School, but are expected to seek admission as Undergraduates or as Special Students in Harvard College; if their record here justifies it they are sometimes transferred to the School in the course of the year. The Administrative Board accepts in all such cases the ruling of the Faculty's Committee on Admission from other Colleges. Seniors on leave of absence from Harvard College who have completed or nearly completed their work for the Bachelor's degree have been admitted to the School, but it is the policy of the Board hereafter to deny such applications. It is also the policy of the Board to advise candidates for the degree of Bachelor of Arts, especially if they are recently graduated, to seek admission to the Senior Class. The colleges and universities that were represented in the School in 1899-1900 are given in Tables II and III.

The foregoing Table (Table I) exhibits the usual classification of the students of the School, and is given for convenience of comparison for the three successive academic years 1897-98, 1898-99, 1899-1900.

Of the Resident Students two hundred and ninety-eight were in attendance throughout the whole year. Of this number two hundred and twenty-seven, including all holders of Fellowships and Scholarships, were engaged in what is defined as a complete year of work (four courses of advanced grade or their equivalent) or were doing a larger amount of work. Seventy-one of the number in residence throughout the year were doing partial work, which ranged from a half-course to three courses. Careful scrutiny was exercised over students who undertook one course or less. Several of the students who were doing partial work, as will be explained in a later paragraph, were engaged in teaching or in other professional occupations in Cambridge or vicinity, and were thus devoting only part of their time to study in the Graduate School. Some of them had no intention of becoming candidates for a degree. Others hoped to obtain one of the higher degrees at a subsequent time upon completing an approved programme of studies. Of the remaining twenty-eight Resident Students, eleven entered after November 1, 1899, two were enrolled in the second third only, and fifteen withdrew before the close of the year.

The constant increase in the number and proportion of students doing full work for the whole year is a gratifying phenomenon. It is these men mainly that give the School its character and reputation.

The class of Non-Resident Students included all holders of traveling fellowships and other fellowships held by students away from Cambridge, and only two other persons, one of whom was registered for but half a year. The privilege of non-resident membership in the School is carefully guarded. It is reserved for men who have already been in residence at the University for a suitable time and are engaged in research. The work of Non-Resident Students, whether holders of fellowships or not, is carried on under the supervision of the Departmental committees under which the students are working.

The second division of Table I indicates in general the several fields of learning and science in which the work of the students chiefly lay. Classification here is difficult, since in the case of many students the work of each lies in more than one Department, a fact that cannot be noted in this Table. For example, no special note can here be made of the large number of students of Education and Teaching, since many of these men are classified in some other Department, their work in Education constituting but a fraction of the instruction they receive. Detailed information about the choice of studies of Graduate Students in the several departments may be obtained by examining the statistics given in the report of the Dean of the Faculty of Arts and Sciences. The steady and almost uniform attraction which several of the great departments of learning exercise upon advanced students is apparent from the Table. In 1899-1900 the subjects, arranged according to the number of students that pursued them, were:—

Modern Languages,	• Mathematics,
Classics and Sanskrit,	Physics,
History and Political Science,	{ Fine Arts,
Philosophy,	{ Engineering,
Natural History (Biology and Geology),	American Archaeology and Ethnology,
Chemistry,	Music.

It may be noted that Classics and Sanskrit rose to the second place from the fourth place which they had occupied in the previous year; Mathematics dropped a place. With these exceptions, the first eight subjects on the list are in the order that they have occupied in each successive year since 1894. Of the students thus classified, on an average four-tenths in each Department received either the degree of Master of Arts or that of Doctor of Philosophy at Commencement.

TABLE II. — COLLEGES AND UNIVERSITIES, WITH DEGREES HELD.

	A.B.	S.B.	LITT.B.	Ph.B.	A.M.	S.M.	Ph.D.	ST.B.	LL.B.	M.D.	No. De- grees.	No. Per- sons.
Acadia University, N. S.	1										1	1
Albany Law School, N. Y.											1	1
Allegheny College, Pa.*	2								1		3	2
Amherst College, Mass.	6	1			1						8	7
Barcelona, University of, Spain	1										1	1
Bates College, Me.	3				1						4	3
Beloit College, Wis.	3	1									4	4
Boston College, Mass.	1										1	1
Boston University, Mass.	4							1			5	4
Bowdoin College, Me.	4				1						5	4
Brooklyn Polytechnic Institute, N. Y.	1										1	1
Brown University, R. I.	4			1	2						7	5
Buchel College, O.	1										1	1
Bucknell University, Pa.	1				1						2	1
California, University of	3	2	1	3		1					10	8
Central Pennsylvania College		1				1					2	1
Centre College, Ky.	1										1	1
Chicago, University of, Ill.	2										2	2
Cincinnati, University of, O.			1								1	1
Colby University (College), Me.	4				1						5	4
Colgate University, N. Y.	1				1						2	1
Colorado, University of		1				1					2	2
Columbian University, D. C.	2										3	3
Cornell College, Ia.					1						1	1
Cornell University, N. Y.	1			1							1	1
Dalhousie University, N. S.	3	1			1						6	4
Dartmouth College, N. H.	2		1								3	3
De Pauw University, Ind.	1										1	1
Dickinson College, Pa.	1				1			1			2	1
Drew Theological Seminary, N. J.											1	1
Edinburgh, University of, Scotland		1							1		2	1

[illegible]

* Besides the degrees enumerated above, the following were held by one person each: C.E., Allegheny College, Pa.; Heb.B. and Rabbi, Hebrew Union College, O.; Mech. Eng., University of Virginia; Ph. M., Northwestern University, Ill.; S.D.B., Missouri State Normal School, Warrensburg. Columbia University, N. Y. the University of Virginia, and Wesleyan University, Conn., were each represented by one Non-graduate; Harvard, by nine, including six Seniors on leave of absence from Harvard College, who had completed the requirements for the A.B. degree. There were five students from European gymnasia and universities who had received no academic degree. There were, further, in the School one Graduate each of Andover Theological Seminary, Mass., and Newton Theological Institution, Mass.

For more than half a dozen years, then, three-fourths of the members of the School have been students of the languages, modern and ancient, and of the historical and philosophical sciences, as against one-fourth who have been students of the mathematical, physical, and natural sciences.

An inspection of the next division of the Table shows that the proportion of students remaining in the School for the second year has slightly increased, while that of students remaining for the third or later years has not appreciably varied. As in the past, about one-half the members of the School have been in the School but one year. Somewhat more than half of these received the degree of Master of Arts at the close of the year. About one-fourth have been in the School for two years only, while nearly one-fifth have been in it for three or more years. The proportion of men, however, who proceed to the higher degrees is distinctly upon an increase. It should be borne in mind, further, as will appear in a later paragraph, that for many of the first-year students in the School — those that have pursued Graduate studies elsewhere — the year is in reality a second or third year of Graduate study.

The fourth division of Table I shows in general the extent to which the School draws its members from Harvard, as contrasted with other institutions. (For detailed information on this point Tables II, III, and IV should be consulted.) About fifty-seven per cent. of the students of the School hold a degree from Harvard University, and a few less than half of these hold only the Harvard degree of Bachelor of Arts. About sixty-one per cent. of the members of the School do not hold the first degree in arts from Harvard. While the School has increased in numbers, there has been a slight diminution in the proportion of holders of Harvard degrees;* hence the increase in the School has been entirely from graduates of other colleges.

Tables II–VI supplement each other and show in detail the extent to which different higher institutions and different parts of the country are represented in the Graduate School. In Table II are given the various colleges and universities and the professional and technical schools whose graduates were members of the School in

* With Graduate Students, however, might justly be reckoned a number of members of the Senior Class in Harvard College who, having completed the requirements for the Bachelor's degree in three years, are carrying on in their Senior year studies approved for the Master's degree (see below, page 144). In 1899–1900 there were eighteen such students, and their number is constantly on the increase.

TABLE III. — COLLEGES AND UNIVERSITIES REPRESENTED BY FOUR OR MORE GRADUATES IN THE SCHOOL:
1896-97, 1897-98, 1898-99, 1899-1900, 1900-01.

1896-97.	1897-98.	1898-99.	1899-1900.	1900-01.
Harvard, Kansas, Wesleyan (Conn.), Amherst, California, Oberlin, Dartmouth, Indiana, Brown, Tufts, Bowdoin, Leland Stanford Jr., Michigan, Vermont, Western Reserve,	Harvard, Kansas, Brown, California, Dartmouth, Vermont, Amherst, Northwestern, Oberlin, Princeton, Toronto, Wesleyan (Conn.), Western Reserve, Acadia, Indiana, Leland Stanford Jr., Mass. Inst. Tech., Ohio Wesleyan, Yale,	Harvard, Yale, Brown, California, Leland Stanford Jr., Toronto, Bowdoin, Northwestern, Tufts, Amherst, Haverford, Indiana, Iowa, Kansas, Michigan, Western Reserve,	Harvard, California, Amherst, Michigan, Oberlin, Leland Stanford Jr., Northwestern, Brown, Haverford, Pennsylvania, Toronto, Tufts, Wesleyan (Conn.), Beloit, Boston Univ., Bowdoin, Colby, Dalhousie, Indiana, Kansas, Nebraska, Rochester, Western Reserve, Williams, Yale,	Harvard, Brown, Amherst, Bowdoin, Oberlin, California, Illinois, Michigan, Boston Univ., Dartmouth, Yale, Kansas, Northwestern, Pennsylvania, Toronto, Tufts, Wesleyan (Conn.), Williams, Beloit, Haverford, Nebraska, New Brunswick,
174 8 8 7 7 7 6 6 5 5 5 4 4 4 4 4 4	178 7 7 6 6 6 5 5 5 5 5 5 5 4 4 4 4 4	198 10 8 8 7 7 6 6 5 5 5 5 5 4 4 4	191 8 7 7 6 6 5 5 5 5 5 5 4 4 4 4 4 4 4 4 4 4	193 11 9 9 9 7 7 7 6 6 6 5 5 5 5 5 5 5 4 4 4 4
Total Membership, 306	293	336	341	[Nov. 5, 1900.] 339

1899-1900, together with the degrees these persons held and the number of different persons from each institution.

These tables show that Harvard University continues to draw its Graduate Students from the whole country without distinction, and, to a slight extent, from foreign countries. The increase in the number of Canadian students in the School, which was noted in my last Report, continues.

The most common degree held by members of the School was that of Bachelor of Arts, — next, that of Master of Arts. Of the three hundred and sixty-three Bachelor degrees in the School, three hundred and three were Bachelor of Arts and thirty-seven Bachelor of Science. As compared with previous years, the proportion of Bachelors of Science, as against Bachelors of Arts, is slightly increasing. There were one hundred and sixty-seven Masters of Arts, thirteen Masters of Science, and eight Doctors of Philosophy in the School in 1899-1900, as against one hundred and fifty-six Masters of Arts, six Masters of Science, and eight Doctors of Philosophy in 1898-99.

Table III shows, among other things, that the number of colleges that send each a considerable group of students to the Graduate School is remarkably constant. Leaving Harvard Graduates out of the enumeration, it appears that in 1896-97 there were fourteen colleges represented in the School by four or more graduates; in 1897-98 there were eighteen; in 1898-99, fifteen; in 1899-1900, twenty-four; in the current year (1900-01), November, there are twenty-one.

The colleges and universities that have been steadiest in the supply of Graduate Students for the past four years, each sending four or more students every year, are: Amherst, Brown, California, Kansas, Leland Stanford Jr., Northwestern, Toronto, and Yale.

In my last Report I suggested that the constant relation which exists between the Graduate School and many of the leading colleges would gain greater stability by the establishment, for students of these colleges, of fellowships and scholarships, to be held at this University. Such foundations in fact now exist, in the Scholarships of the Harvard Clubs of San Francisco, Chicago, and St. Louis, which are awarded to competent graduates of local colleges who enter the Graduate School, and in 1899-1900 six other persons, holders of travelling fellowships, were registered as students in the Graduate School; two of them received at the close of the year the degree of Doctor of Philosophy. These scholars came from Amherst, Dalhousie, Edinburgh, Hamilton, Toronto, and from France, the last being under appointment of the Ministry of Public Instruction. Such foundations serve a double purpose: they foster the ambition

for higher work at the colleges or in the communities from which the beneficiaries come, and they promote the relation of friendliness and coöperation between Harvard and the contributing colleges.

A considerable number of the Resident Students in the Graduate School have pursued Graduate studies at other American colleges and universities and at foreign universities. For such work they may or may not hold degrees. Many of these men become candidates for the Doctor's degree at this University, and Graduate studies pursued at another university are accepted, if properly attested and otherwise satisfactory to the respective Divisions of the Faculty, in partial fulfilment of the requirement of at least two years of Graduate study for the degree (one of these being, according to the statute, spent in residence at this University).

In 1899-1900, one hundred and eight of the members of the School, or nearly one-third, had carried on Graduate studies elsewhere. In 1898-99, of the new men in the School, fifty had been Graduate Students of this class; in 1899-1900 fifty-nine had been. And the number of persons in the School who have elsewhere carried on Graduate studies is constantly upon the increase.

This phenomenon is an encouraging one. It means greater maturity for advanced work here, and is a sign that liberal studies in their higher lines are cultivated more widely and deeply throughout the country. Incidentally, the migration of Graduate Students tends to spread that knowledge of the conditions of the higher education and the facilities for it that most securely brings about its extension and permanence.

The colleges and universities at which three or more men in the Graduate School in 1899-1900 had pursued Graduate studies are given in Table IV.

TABLE IV. — MIGRATION OF GRADUATE STUDENTS.

Chicago, 7,	Oberlin, 4,
Leipsic, 6,	Pennsylvania, 4,
Johns Hopkins, 5,	American School at Athens, 3,
California, 5,	Paris, 3,
Berlin, 4,	Toronto, 3,
Heidelberg, 4,	Texas, 3,
Cornell, 4,	Yale, 3.
Brown, 4,	

Besides these, other universities or colleges at each of which one or two members of the School had pursued Graduate studies are: Amherst, Boston University, Clark, Colorado, Columbia, Columbian, Dalhousie, Denver, Dickinson, Haverford, Illinois, Kansas, Lafayette, Lawrence, McMaster, Miami, Michigan, Middlebury, Minnesota, Mississippi, Nebraska, New York, Northwestern, Ohio State, Ohio Wesleyan, Princeton, Rochester, Tulane, Stanford Jr., Tfts, Tulane, Virginia, Washington, Western Reserve, Williams, Wisconsin; and the following foreign universities: Bonn, Edinburgh, Freiburg, Jena, London, Madras, Oxford, Strasburg, Würzburg, Zurich.

The fields of study of these migrating students were—for subjects in which there were six or more—as follows:—

Philosophy, 20,
English Literature, 16,
History, 15,
Classics, 14,

Modern Languages, 11,
Political Science, 7,
Natural History, 7,
Mathematics, 6.

These numbers are too small to base generalizations upon. If the numbers were larger it might be safe to infer that the subjects in which there are most migrants to this University are the ones in which in the judgment of the community the most attractive advanced instruction is here provided.

A group of Graduate Students that might properly be classified with that of the migrants is that of teachers who are in the School upon leave of absence from their respective colleges or schools, and who expect to return to the positions they have left. They are men who, for the most part, have attained distinction and success in their profession, and they come to the University for a year or two of advanced study in their special department, the better to fit themselves for their life work. In 1899–1900 seventeen colleges were represented in the School by as many men, members of their Faculties on leave of absence, and nine preparatory schools or other institutions of like grade were similarly represented.

This enumeration of course does not include a large number of men in the School doing partial work who are actively engaged in the pursuit of their profession in and near Boston, chiefly clergymen and teachers in colleges and preparatory schools. In 1899–1900 there were five ordained clergymen in charge of parishes (Baptist, Catholic, Congregational, Episcopalian, Methodist), besides a Hebrew rabbi, who were enrolled in the School, and seven teachers in four neighboring colleges or professional schools, together with eleven teachers in neighboring schools, public or endowed.

In the same category with these might be included a considerable number of the young men who, being members of the Graduate School, serve the University as instructors, teaching fellows and assistants. In 1899–1900 there were sixty-three such.

All these men—especially the teachers on leave of absence (with whom might be grouped many other teachers of established reputation studying in the School, though not technically on leave of absence), the teachers in actual service and the more advanced students who may or may not have studied at other universities—give the School a peculiar character wherein it differs essentially

from the Professional Schools in which nearly every student is learning the rudiments of his profession. They give the School the character of an academy of arts and sciences, the membership of which is made up of experts, whose aim in life is the advancement of learning not only by the diffusion of education, but by the development of research.

TABLE V. — BIRTHPLACES OF GRADUATE STUDENTS.

	1896-97.	1897-98.	1898-99.	1899-1900.
Students born in the New England States . . .	141	121	143	122
Students born in other Northern States east of the Mississippi River	86	89	106	119
Students born in Southern States east of the Mississippi River	13	19	15	17
Students born in States west of the Mississippi River	25	26	30	34
Students born in the Dominion of Canada . . .	17	18	25	23
Students born in other foreign countries . . .	24	20	17	26
Total number of students	306	293	336	341

TABLE VI. — RESIDENCES OF GRADUATE STUDENTS: 1899-1900.

New England States	154
Northern States east of the Mississippi River	94
Southern States east of the Mississippi River	22
States west of the Mississippi River	45
Canada	19
Foreign countries	7

These Tables (V, VI) show that of the students in the School in 1899-1900, about thirty-six per cent. were of New England birth, as against forty-two per cent. in 1898-99, and that the proportion of those born in other northern states and in states west of the Mississippi and in foreign countries is growing. On the other hand, over forty-five per cent. claim residence in the New England states. A comparison of the Table of birthplaces with that of residences appears to prove that a considerable number of students born out of New England have immigrated into it. In general, Table VI shows that nearly one-half of the students reside in New England, about one-fourth come from northern states east of the Mississippi, less than one-eighth from the states west of the Mississippi, and about one-sixteenth from the South.

DEGREES.

One hundred and seventy persons were recommended* for the higher degrees at Commencement, 1900.

The details are found in the following Table (VII), which gives, in the first and second parts, the number of students in the Graduate School recommended by the Faculty of Arts and Sciences for any degree, and the number of other students recommended for the degrees of Master of Arts and Doctor of Philosophy in the three years 1898, 1899, and 1900. In the third part of the Table, all persons recommended for the higher degrees (A.M., S.M., Ph.D., and S.D.) are classified with reference to their previous graduation as Bachelors of Arts or of Science.

TABLE VII.—RECOMMENDATIONS FOR DEGREES IN 1898, 1899, 1900.

	1898.	1899.	1900.
Graduate students recommended for A.B.	18	8	10
Graduate students recommended for A.M.	91	97	106
Graduate students recommended for S.M.	5	6	1
Graduate students recommended for Ph.D.	25	21	35
Graduate students recommended for S.D.	0 139	1 133	1 153
College Seniors recommended for A.M.	0	2	0
College Seniors of a preceding year, recommended for A.M. on work done in senior year	9	16	19
College Seniors of a preceding year, recommended for S.M. on work done in senior year	0	0	1
Professional students recommended for A.M. on special courses of study	7	8	7
Professional students recommended for Ph.D. on special courses of study	1 17	2 28	0 27
Total of the above list	156	161	180
Deduct Graduate students recommended for A.B.	18	8	10
Total number recommended for A.M., S.M., Ph.D., and S.D.	138	153	170
Harvard Bachelors of Arts or Science, not pre- viously graduated elsewhere	42	65	62
Harvard Bachelors of Arts or Science, previously graduated elsewhere	21	20	22
Students not Harvard Bachelors of Arts or Science	75 138	68 153	86 170

* The number of persons recommended each year, and that of the men who actually receive the degree, as published in the Annual Catalogue, do not always agree. Usually a few of the candidates recommended do not receive the degree at once. The degree is in these cases ordinarily conferred in a later year, "as of" the year in which the recommendation was made.

Two remarks may be made upon this Table. The number of college Seniors who receive the degree of Master of Arts for work done in their Senior year in excess of the requirement for the Bachelor's degree is rapidly increasing. (In 1897 there were six; in 1898, nine; in 1899, sixteen; in 1900, nineteen.) These men have in reality usually completed the course of study for the Bachelor's degree in three years, but they prefer to receive the Bachelor's degree not at the close of the third year, but at that of the fourth year with their "class." The Master's degree is conferred at the end of the fifth year. It is a question whether these men ought not to be catalogued in such a way as to indicate their peculiar relation both to the Bachelor's degree and to the Master's degree.

In the second remark upon the Table attention may be called to the increase in the numbers of non-Harvard men (that is, men who do not hold the Harvard Bachelor's degree) who are promoted to the higher degrees. In 1899-1900 about fifty-one per cent. of the men recommended for A.M., S.M., Ph.D., and S.D. held no first degree from Harvard; in 1898-99 the proportion was forty-four per cent.

The next Table (VIII) indicates the departments or fields of study in which lay the chief work of the candidates for the degrees of Master of Arts, Master of Science, Doctor of Philosophy, and Doctor of Science.

TABLE VIII.—DIVISIONS AND DEPARTMENTS IN WHICH RECOMMENDATIONS FOR THE HIGHER DEGREES WERE MADE IN 1900.

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	PH.D.	S.D.
I. Semitic Languages and History . . . . .		..	..	..	..
II. Ancient Languages :					
Indo-Iranian Languages . . . . .		..	..	..	..
The Classics (Greek, Latin) . . .	21	..	7	..	..
Total in Ancient Languages . .	— 21	—	..	— 7	— ..
III. Modern Languages :					
English	13	..	6	..	..
Germanic Languages and Literatures	4	..	1	..	..
French, and other Romance Languages and Literatures	3	..	..	..	..
In more than one Department	9	..	..	..	..
Total in Modern Languages . .	— 30	—	..	— 7	— ..
IV. History and Political Science :					
History and Government	16	..	3	..	..
Political Economy	4	..	3	..	..
Total in Hist. and Political Sci. .	— 20	—	..	— 5	— ..

DIVISION.	DEPARTMENT.	DEGREES.			
		A.M.	S.M.	Ph.D.	S.D.
V. Philosophy		25	..	3	..
[Education		4]			
VI. Fine Arts		1	..	..	..
VII. Music.					
VIII. Mathematics		6	..	..	..
IX. Engineering		1	..	..	..
X. Physics	4	..
XI. Chemistry		4	..	3	..
XII. Biology :					
Botany		3	..	1	..
Zoölogy	3	..
Total in Biology		— 3 —	..	— 4 —	..
XIII. Geology :					
Geology and Geography		3	2	..	1
Mineralogy and Petrography
Total in Geology		— 3 —	2	..	— 1
XIV. American Archaeology and Ethnology		1	..	2	..
In more than one Division		10	..	..	..
Professional Students :					
Divinity School		4	..	..	..
Law School		3	..	..	..
Medical School					
Total		132	2	35	1

The degree of Doctor of Philosophy was conferred upon the thirty-five persons named below. With each name are given the special field in which the degree was taken, the candidate's academic history, and his present occupation.

Philology.

CAMPBELL BONNER.
Classical Philology.—A.B. (*Vanderbilt Univ., Tenn.*) 1896, A.M. (*ibid.*) 1897, A.M. 1898.—Res. Gr. Stud., 1897-1900.
Now studying Classical Philology in Berlin, as Harris Fellow.

CARROLL NEIDÉ BROWN.
Classical Philology.—A.B. *summa cum laude* 1891, A.M. 1891.—Res. Gr. Stud., 1891-92 and 1893-96.
Teacher of Latin, in the Asheville School, Asheville, N. C.

GEORGE HENRY CHASE.
Classical Philology.—A.B. *summa cum laude* 1896, A.M. 1897.—Non-Res. Stud., 1896-98; Res. Gr. Stud., 1898-1900.
Teacher of Classics at St. Mark's School, Southborough, Mass.

GEORGE CONVERSE FISKE.
Classical Philology.—A.B. *summa cum laude* 1894, A.M. 1897.—Res. Gr. Stud., 1896-1900.
Teacher of Latin in Phillips Academy, Andover, Mass.

WALTER HAMILTON GILLESPIE.
Classical Philology.—A.B. (*Univ. of Toronto, Ont.*) 1894, A.M. 1896.—Res. Gr. Stud., 1896-98 and 1897-99.
Teacher of Greek and Latin, University School, Cleveland, O.

EDMUND ROBERT OTTO VON MACH.
Classical Archaeology.—A.B. *cum laude* 1896, A.M. 1896.—Res. Gr. Stud., 1896-97 and 1898-99.
Instructor in Classical Archaeology, Wellesley College, and at this University.

GLANVILLE TERRELL.
Classical Philology.—A.B. (*Leland Stanford Jr. Univ., Cal.*) 1894, A.M. 1896.—Res. Gr. Stud., 1897-1900.
Professor of Greek, Georgetown College, Georgetown, Ky.

ALBERT EMERSON BENSON.
English Philology.—A.B. 1892, A.M. 1895.—Res. Gr. Stud., 1894-97.
Teacher of English, St. Mark's School, Southborough, Mass.

WILLIAM DINSMORE BRIGGS.

English Philology. — A.B. (*Leland Stanford Jr. Univ., Cal.*) 1896, A.M. 1899. — Res. Gr. Stud., 1898-1900.
Instructor in English, University of Vermont, Burlington, Vt.

ARTHUR CHARLES LEWIS BROWN.

English Philology. — A.B. (*Hobart Coll., N. Y.*) 1893, A.B. *magna cum laude* 1894, A.M. 1895. — Res. Gr. Stud., 1894-96 and 1898-1900.
Now studying Comparative Literature, in Germany, as Rogers Fellow.

HORACE AINSWORTH EATON.

English Philology. — A.B. *magna cum laude* 1893, A.M. 1897. — Res. Gr. Stud., 1894-1900.
Now studying Comparative Literature in Italy.

JOHN ASHBY LESTER.

English Philology. — A.B. (*Haverford Coll., Pa.*) 1896, A.M. (*ibid.*) 1897, A.M. 1898. — Res. Gr. Stud., 1897-1900.
Teacher of English, The Hill School, Pottstown, Penn.

FRED MONROE TISDEL.

English Philology. — A.B. (*Northwestern Univ., Ill.*) 1891, A.M. (*Univ. of Wisconsin*) 1893, A.M. 1894. — Res. Gr. Stud., 1893-95 and 1898-1900.
Professor of English, Armour Institute, Chicago, Ill.

JOHN FIRMAN COAR.

Germanic Philology. — A.M. 1897. — Res. Gr. Stud., 1896-1900.
Instructor in German at this University.

Philosophy.**GEORGE JOHN BLEWETT.**

Ethics. — A.B. (*Univ. of Toronto, Ont.*) 1897. — Res. Gr. Stud., 1899-1900.
Now studying Ethics and Jurisprudence at Oxford, England, as Henry Bromfield Rogers Memorial Fellow.

EDWIN LEE NORTON.

Aesthetics and Ethics. — A.B. (*Amherst Coll.*) 1893, A.M. 1897. — Res. Gr. Stud., 1896-98 and 1899-1900.
Now studying Philosophy at Clark University, Worcester, Mass.

CHARLES HENRY RIEBER.

Psychology. — A.B. (*Univ. of California*) 1898, A.M. 1899. — Res. Gr. Stud., 1898-1900.
Now Assistant in Philosophy and student of Philosophy at this University.

History.**SIDNEY BRADSHAW FAY.**

History of Prussia. — A.B. *magna cum laude* 1896, A.M. 1897. — Res. Gr. Stud., 1896-98; Non-Res. Stud., 1898-1900.
Austin Teaching Fellow in History at this University.

CARL RUSSELL FISH.

American History from 1775 to 1861. — A.B. (*Brown Univ., E. I.*) 1897, A.M. 1898. — Res. Gr. Stud., 1897-1900.
Instructor in American History, University of Wisconsin, Madison, Wis.

Political Science.**ABRAM PIATT ANDREW. JR.**

The Theory of Money. — A.B. (*Princeton Univ., N.J.*) 1893, A.M. 1896. — Res. Gr. Stud., 1893-97; Non-Res. Stud., 1897-98.
Instructor in Economics at this University.

WILLIAM BENNETT MUNRO.

The Institutions of the Old Régime in Canada. — A.M. (*Queen's Univ., Ont.*) 1896, LL.B. (*ibid.*) 1897, A.M. 1899. — Res. Gr. Stud., 1898-1900.
Now studying History and Political Science at the University of Berlin, as Parker Fellow.

SUBHARAMA SWAMINADHAN.

Philosophy of Law. — A.B. (*Univ. of Madras, India*) 1892, A.M. (*ibid.*) 1896, LL.B. (*Univ. of Edinburgh, Scotland*) 1898, B.Sc. (*ibid.*) 1899, Barrister-at-Law (*Honorable Society of Gray's Inn, London, England*) 1899. — Res. Gr. Stud., 1899-1900.
Supposed to be teaching in India.

Physics.**HARRISON HITCHCOCK BROWN.**

Electricity. — A.B. (*Amherst Coll.*) 1889, A.M. 1896. — Res. Gr. Stud., 1894-1900.
Instructor in Mathematics at this University.

THEODORE LYMAN.

Light. — A.B. *cum laude* 1897, A.M. 1899. — Res. Gr. Stud., 1897-1900.
Assistant in Physics at this University.

WILLIAM EDWARD MCELFREESH.

Thermo-Electricity. — A.B. (*Illinois Coll.*) 1888, A.B. 1896, A.M. 1896. — Res. Gr. Stud., 1893-1900.
Assistant in Physics at this University.

GEORGE WASHINGTON PIERCE.

The Electro-Magnetic Theory of Light. — S.B. (*Univ. of Texas*) 1893, A.M. (*ibid.*) 1894, A.M. 1899. — Res. Gr. Stud., Feb. 1898-1900.
Now studying Physics at the University of Leipzig, as John Tyndall Scholar.

Chemistry.**WALDEMAR KOCH.**

Organic Chemistry. — S.B. *magna cum laude* 1898. — Res. Gr. Stud., 1898-1900.
Assistant in Chemistry in the Medical School of this University.

HARRY GEORGE PARKER.

Inorganic Chemistry. — A.B. (*William Jewell Coll., Mo.*) 1892, A.M. (*ibid.*) 1893. — Res. Gr. Stud., 1894-96.
Professor of Chemistry, William Jewell College, Liberty, Mo.

ALVIN SAWYER WHEELER.

Organic Chemistry. — A.B. (*Beloit Coll., Wis.*) 1890, A.M. 1897. — Res. Gr. Stud., 1896-1900.
Assistant Professor of Chemistry, University of North Carolina, Chapel Hill, N. C.

Botany.**GEORGE THOMAS MOORE.**

Botany. — A.B. (*Wabash Coll., Ind.*) 1894, A.B. 1896, A.M. 1896. — Res. Gr. Stud., 1894-96.
Instructor in Botany, Dartmouth College, Hanover, N. H.

CHARLES WILLIAM PRENTISS.

Zoology. — A.B. (*Middlebury Coll., Vt.*) 1896, A.M. (*ibid.*) 1897, A.M. 1898. — Res. Gr. Stud., 1897-1900.
Instructor in Anatomy in the Veterinary School of this University.

HERBERT WILBUR RAND.

Zoology. — A.B. (*Allegheny Coll., Pa.*) 1892, C.M. (*ibid.*) 1893, A.B. 1897, A.M. 1898. — Res. Gr. Stud., 1896-1900.
Instructor in Zoology at this University.

STEPHEN RIGGS WILLIAMS.

Zoology. — A.B. (*Oberlin Coll., O.*) 1892, A.M. (*ibid.*) 1893, A.M. 1898. — Res. Gr. Stud., 1898-1900.
Professor of Biology, Miami University, Oxford, Ohio.

American Archaeology and Ethnology.**ROLAND BURRAGE DIXON.**

American Ethnology. — A.B. *cum laude* 1897, A.M. 1899. — Res. Gr. Stud., 1897-1901.
Assistant in Anthropology at this University.

JOHN REED SWANTON.

American Ethnology. — A.B. *magna cum laude* 1896, A.M. 1897. — Res. Gr. Stud., 1896-98.
Assistant in the Bureau of Ethnology, Smithsonian Institution, Washington, D. C.

The degree of Doctor of Science was conferred upon one candidate: —

Geology.**AMADEUS WILLIAM GRABAU.**

Geology and Paleontology. — S.B. (*Mass. Inst. of Technology*) 1896, S.M. 1898. — Res. Gr. Stud., 1897-Feb. 1900; Non-Res. Stud., Feb.-June, 1900.
Assistant Professor of Geology, in the Rensselaer Polytechnic Institute, Troy, N. Y.

In no preceding year has so large a number of Doctors of Philosophy been created at this University as in 1900.

Of these thirty-five Doctors of Philosophy, twenty-seven — or nearly three-fourths of the whole number — are now actively engaged in the pursuit of their profession, and may be regarded as having completed their preliminary professional studies. Except one, who is an assistant in a scientific institution of the United States Government, all are teachers either in colleges or in universities (three are professors, sixteen are instructors or assistants) or in secondary institutions of the highest grade (seven). Of these teachers twelve are in the service of this University, seven being instructors (including two Austin teaching fellows), and five assistants, — a much larger number than in previous years. Of the remaining eight Doctors of Philosophy seven are continuing their studies, six in Europe as travelling fellows, and one at another American University. The present occupation of only one of the Doctors of Philosophy is not known; he is believed to be teaching in India.

The statistics, taken with those of former years, show that the Graduate School is doing a useful work in sending out well equipped scholars as teachers who find immediate recognition and speedily secure positions of high responsibility in colleges and universities and in secondary schools.

With respect to the academic history of these men, it may be noted that all held a degree in Arts before receiving the Doctor's

degree save one, and he was a Bachelor of Science of this University; that all had a Harvard degree except four; that of the holders of Harvard degrees fourteen held A.B. and A.M., and sixteen A.M. only. All the candidates were Bachelors of Arts except four; three of these were Harvard Masters of Arts, and one was a Harvard Bachelor of Science.

In the case of nine candidates six or more years had elapsed since the candidate had received the Harvard A.B. or had been admitted to equivalent standing. Of the remaining twenty-six, five were A.B.'s (or its equivalent) of five years' standing, six of four years' standing, nine of three years' standing, and six of only two years' standing (in 1898-99 there was only one A.B. of two years' standing among twenty-three Doctors of Philosophy).

The period of resident study for the Doctor's degree was either one year (four candidates), two years (seven candidates), three years (thirteen candidates), four years (ten candidates), or five years (one candidate); but the shorter period of residence, two years or less, was in nearly all cases supplemented by from one to two years of approved Graduate study either at another university (three candidates) or *in absentia* under the direction of this University (two candidates). The departments in which the degree was conferred after but one year of resident study were — each with one candidate — Biology, Chemistry, Philosophy, and Political Science. The departments in which the degree was conferred after but two years of resident study were — each with one candidate — American Archaeology and Ethnology, Chemistry, Classics, English, History, Philosophy, and Political Science. The departments where four years or more of resident study were found necessary by some of the candidates were: Biology (one), Chemistry (one), Classics (two), English (three), Germanic Philology (one), Physics (two), Political Science (one). The remaining candidates secured the degree after but three years of resident study in these departments: American Archaeology and Ethnology (one), Biology (two), Classics (four), English (two), History (one), Philosophy (one), Physics (two).

The average period of resident study for the degree is thus a little less than three years. All these statistics show that while men who have been only one year at the University are admitted more freely to candidacy for the degree than in the past, candidates normally devote four years to preparation for the degree and spend three of these years in residence here.

The single candidate for the degree of Doctor of Science, a Harvard Master of Science of two years' standing, had been a resident

student for two and one-half years and a non-resident student for the second half of the third year. He is now holding a professorship in a technological institution of high repute.

Two Tables (IX, X) are here subjoined which are of interest at the present time when the importance is more and more recognized of bringing down the age at which men may wisely complete their Undergraduate studies and be enabled to enter active life without waste of time.

TABLE IX. — AGE OF GRADUATE STUDENTS RECOMMENDED FOR THE DEGREES OF MASTER OF ARTS AND DOCTOR OF PHILOSOPHY: 1900.

	20	21	22	23	24	25	26	27	28-34	35-39	40 or over	Total.
A.M.'s . .	2	4	6	13	7	9	8	6	32	13	3	103
Ph.D.'s . .	. .	. .	. .	2	3	4	2	6	15	3	. . .	35

TABLE X. — AGE OF DOCTORS OF PHILOSOPHY CREATED IN 1897, 1898, 1899, AND 1900.

	22	23	24	25	26	27	28 or over
1897 . . . . .	. . .	. . .	3	1	4	2	15
1898	1	. . .	1	4	2	2	15
1899	1	4	2	3	2	1	8
1900 . . . . .	. . .	2	3	4	2	6	18

The average age of the normal Master of Arts (that is, a student who continues his studies for the Master's degree immediately on receiving the Bachelor's degree) is a little over twenty-four years. The large number of men over twenty-eight who receive the Master's degree is made up not of laggards, but of persons who, since receiving the Bachelor's degree, have been in active service for several years and have come back to the University for a year or two of special study.

The Doctors of Philosophy are of course older. While generalization here may be hazardous, it is certainly safe to assert that the degree is not conferred on many too young men. Indeed, the age to which many candidates find themselves obliged to postpone their examination for the degree is, if anything, too advanced. The normal age of Doctors of Philosophy should be not far from twenty-five or twenty-six. It is now much nearer thirty.

FELLOWSHIPS AND SCHOLARSHIPS.

The appointments to fellowships and scholarships for 1899-1900 were made toward the close of the preceding academic year, chiefly in June, 1899. Similarly the appointments for the current year, 1900-01, were for the most part made within the academic year covered by the present report. The recommendations to fellowships and scholarships are made by the Faculty of Arts and Sciences on the nomination of its Committee on Fellowships and Other Aids for Graduate Students, and thus are a part of the business of that Faculty; but as the persons appointed are members of the Graduate School, information on this subject is always given in the reports of the Dean of the Graduate School.

Twenty-five* fellowships and sixty-one scholarships were held by students in the Graduate School in 1899-1900. With the fellowships are included the John Harvard Fellowships, without stipend, — three in 1899-1900, — and the Atkins Fellowship (for 1899-1900 only); one of the Whiting Fellowships was vacant. Thirteen of the fellowships, including three John Harvard Fellowships, were held by Non-Resident students who pursued their studies abroad, — in England (4), France (2), Germany (3), Switzerland (1), Italy (1), Russia (1), and the Far East (1). Twelve of the fellowships and all the scholarships were held by Resident Students.

For 1900-01 the appointments have been made to twenty-two fellowships and sixty-one scholarships.

The names of the holders of fellowships for the two academic years 1898-99 and 1899-1900, with statements as to the present occupation of each, follow. The fellowships are arranged in the order of foundation.

1899-1900.

1900-1901.

Harris Fellowship.

NORMAN MACLAREN TRENHOLME.

A.B. (*McGill Univ., Que.*) 1896, A.M. 1897, Ph.D. (History) 1899. — Res. Gr. Stud., 1896-99; Non-Res. Stud., 1899-1900. — Edward Russell Scholar, 1896-97; Thayer Scholar, 1897-98. — Assistant in History, 1898-99. — Student of History, in England. Lecturer in English and History, Western University, Ont.

CAMPBELL BONNER.

(See Morgan Fellowships, 1899-1900.)

* In these lists and enumerations the Austin teaching fellowships are not included; they are of the nature of instructorships or assistantships (see p. 158), and are therefore taken note of in another place.

1899-1900.

1900-1901.

Rogers Fellowships.

SIDNEY BRADSHAW FAY.

A.B. 1896, A.M. 1897, PH.D. (History) 1900. — Res. Gr. Stud., 1896-98; Non-Res. Stud., 1898-1900. — Parker Fellow, 1898-99. — Assistant in History, 1896-98. — Student of History, in Europe.
Austin Teaching Fellow in History, at this University.

PRESCOTT ORDE SKINNER.

A.B. 1896, A.M. 1897. — Res. Gr. Stud., 1896-98; Non-Res. Stud., 1899-1900. — Instructor in Spanish and Italian, 1897-99. — Student of Romance Philology, in Paris.
Instructor in Spanish, Dartmouth College.

ARTHUR CHARLES LEWIS BROWN.
(See Morgan Fellowships, 1899-1900.)

EDWARD KENNARD RAND.

(See John Harvard Fellowships, 1899-1900.)

Parker Fellowships.

FRANK WATTS BANCROFT.

Reappointed.

Resigned, to accept an instructorship in the University of California.

BENJAMIN OLIVER FOSTER.

A.B. (*Leland Stanford Jr. Univ., Cal.*) 1895, A.M. 1897, PH.D. (Classical Philology) 1899. — Res. Gr. Stud., 1895-99; Non-Res. Stud., 1899-1900. — University Scholar, 1895-96; Townsend Scholar, 1896-97; Thayer Scholar, 1897-99. — Student of Classical Philology, at Rome.
Instructor in Latin, State Normal School, Ypsilanti, Mich.

EARLE RAYMOND HEDRICK.

A.B. (*Univ. of Michigan*) 1896, A.M. 1898. — Res. Gr. Stud., 1897-99; Non-Res. Stud., 1899-1900. — Shattuck Scholar, 1897-98. — Morgan Fellow, 1898-99. — Student of Mathematics, at Göttingen.
Now continuing his studies at Göttingen, as Parker Fellow.

JOHN ANDREAS WIDTSOE.

Reappointed.

S.B. 1894. — Non-Res. Stud., 1898-1900. — Student of Chemistry, at Göttingen and Zurich.

Professor of Chemistry and Mineralogy, Agricultural College of Utah, and Director of the U.S. Agricultural Experiment Station for Utah.

GILBERT NEWTON LEWIS.

A.B. 1896, A.M. 1898, PH.D. (Chemistry) 1899. — Res. Gr. Stud., 1897-99. — George and Martha Derby Scholar, 1897-98; Toppan Scholar, 1898-99. — Instructor in Chemistry, 1899-1900.
Student of Chemistry, at Leipzig.

EARLE RAYMOND HEDRICK.

Reappointed.

WILLIAM BENNETT MUNRO.

(See Ozias Goodwin Memorial Fellowship, 1899-1900.)

John Thornton Kirkland Fellowship.

JESSE MORE GREENMAN.

S.B. (*Univ. of Pennsylvania*) 1893, S.M. 1899. — Res. Gr. Stud., 1898-99; Non-Res. Stud., 1899-1900. — Assistant in the Gray Herbarium, 1894-99. — Student of Botany, in Berlin.

Now continuing his studies in Berlin, as John Thornton Kirkland Fellow.

JESSE MORE GREENMAN.

Reappointed.

James Walker Fellowship.

JOHN ELOF BOODIN.

A.B. (*Brown Univ., R.I.*) 1895, A.M. (*ibid.*) 1896, PH.D. (Philosophy) 1899. — Student in Harvard Divinity School, 1897-98; Res. Gr. Stud., 1899-1900. — Student of Philosophy, at this University.
Professor of Philosophy, Iowa College.

EDWARD PARRISH CARR.

A.B. (*Univ. of North Carolina*) 1896, A.B. 1897, A.M. 1898. — Res. Gr. Stud., 1897-1900. — Assistant in Philosophy, 1898-99.
Student of Philosophy, in Berlin.

tional 17, Universalist 14, Baptist 6, Unitarian 6, Disciples 3, Episcopal 3, Methodist 3.

The following is a list of the courses of the School and after each course given last year is a statement of the number of students taking it from the Divinity School, from the Graduate School, and from the College. Thirteen elections of College courses were made by Divinity students. There is appended to the list of regular courses a list of the lectures of the Summer School. Almost all of the students enrolled in the Summer School attended all its courses.

COURSES OF INSTRUCTION.

OLD TESTAMENT.

1. Professor LYON. — Hebrew. — Mitchell's Hebrew Lessons. Explanation of parts of Genesis and of the Psalm-book. 1 Div., 7 Col.
2. Professor TOY. — Hebrew (second course). — Syntax. — Interpretation of parts of the Prophets and Poetical Books. Text-criticism. 1 Col.
- 3¹ *hf.* Professor LYON. — Jewish Aramaic. Kautzsch's *Biblisch-Aramäische Grammatik*. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course*.
4. Professor LYON. — History of Israel, political and social, till the death of Herod the Great. Text-books, lectures, and theses. 6 Div., 2 Gr., 45 Col.
5. Professor TOY. — History of pre-Christian Hebrew Literature. 2 Div., 2 Col.
6. Professor TOY. — History of the Hebrew Religion, with comparison of other Semitic religions. 2 Div., 2 Col.
7. Professor LYON. — Assyrian. Lyon's Assyrian Manual. Delitzsch's Assyrian Grammar. Abel and Winckler's *Keilschrifttexte*.
8. Professor LYON. — Assyrian (second course). — Delitzsch's Assyrian Grammar. The Chaldean Epic. Letters and Commercial Documents. 2 Col.
20. Research courses. The instructors arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on.

NEW TESTAMENT.

- 1¹ *hf.* Professor THAYER. — New Testament Times. — The political, social, moral, and religious condition of the world when Christ appeared. *Half-course*. 7 Div.
- 2¹ *hf.* Professor THAYER. — New Testament Introduction. — The origin, contents, and history of the New Testament writings, together with the formation of the Canon. *Half-course*. 7 Div.

1899-1900.

1900-1901.

Ozias Goodwin Memorial Fellowship.

WILLIAM BENNETT MUNRO.

A.B. (*Queen's Univ., Ont.*) 1896, LL.B. (*ibid.*) 1897, A.M. 1899, PH.D. (Political Science) 1900. — Res. Gr. Stud., 1896-1900. — University Scholar, 1898-99. — Student of History and Political Science, at this University.

Now continuing his studies in Berlin, as Parker Fellow.

No appointment.

Henry Bromfield Rogers Memorial Fellowship.

GEORGE HENRY BOKE.

Reappointed.

PH.B. (*Univ. of California*) 1894, A.M. 1900. — Res. Gr. Stud., 1896-1900. — Student of Ethics in its relations to Jurisprudence, at this University.

Instructor in Law at the University of California.

GEORGE JOHN BLEWETT.

A.B. (*Univ. of Toronto*) 1897, PH.D. (Philosophy) 1900. — Res. Gr. Stud., 1899-1900. — Toppan Scholar, 1899-1900. — Student of Ethics in its relations to Jurisprudence, at Oxford.

Hemenway Fellowship.

ROLAND BURRAGE DIXON.

Reappointed.

A.B. 1897, A.M. 1899, PH.D. (American Archaeology and Ethnology) 1900. — Res. Gr. Stud., 1897-1900. — Assistant in Anthropology, 1898-1900. — Student of American Archaeology and Ethnology, at this University.

Assistant in Anthropology, at this University.

Appointment for 1900-1901 not yet announced.

John Harvard Fellowships.

GEORGE RAPALL NOYES.

Reappointed.

A.B. 1894, A.M. 1895, PH.D. (English Philology) 1898. — Res. Gr. Stud., 1894-96; Non-Res. Stud., 1898-1900. — James Savage Scholar, 1896-97; Thayer Scholar, 1897-98. — Student of Slavic Languages in St. Petersburg.

Assistant Professor of English, University of Wisconsin.

HARRY NELSON GAY.

A.B. (*Amherst Coll.*) 1891, A.M. 1896. — Res. Gr. Stud., 1894-96 and 1898-97; Non-Res. Stud., 1896-98. — Student of History, in Rome.

JOSEPH TRUMBULL STICKNEY.

Reappointed.

A.B. 1895. — Non-Res. Stud., 1898-1900. — Student of Classical Philology and Sanskrit, in Paris.

Still continuing his studies.

ROGER BIGELOW MERRIMAN.

A.B. 1896, A.M. 1897, LITT.B. (*Univ. of Oxford, England*) 1899. — Res. Gr. Stud., 1896-97 and 1899-1900. — Assistant in History, 1899-1900. — Student of History, in Europe.

EDWARD KENNARD RAND.

A.B. 1894, A.M. 1895. — Res. Div. Stud., 1894-96; Non-Res. Gr. Stud., 1899-1900. — Student of Late Latin, at the University of Munich.

Now continuing his studies in Munich, as Rogers Fellow.

Whiting Fellowships.

EDWIN PLIMPTON ADAMS.

S.B. (*Beloit Coll., Wis.*) 1899. — Res. Gr. Stud., 1899-1900. — Student of Physics and Mathematics, at this University.

Now continuing his studies at this University, as Whiting Fellow.

EDWIN PLIMPTON ADAMS.

Reappointed.

EDWARD MAURICE MONTCHYK.

S.B. (*Univ. of Colorado*) 1899, A.B. 1900. — Res. Gr. Stud., 1899-1900. — Student of Physics and Mathematics at this University.

Present occupation and address unknown.

One vacancy.

JOHN EMERSON BURBANK.

A.B. (*Bowdoin Coll., Me.*) 1896, A.M. (*ibid.*) 1897, A.M. 1899. — Res. Gr. Stud., 1897-99. — Whiting Fellow, 1897-99.

Student of Physics at this University.

One vacancy.

1899-1900.

1900-1901.

Edwin F. Atkins Fellowship (special for 1899-1900).

EDWIN MEAD WILCOX.

S.B. (*Ohio State Univ.*) 1896, A.M. 1898, Ph.D. (Biology) 1899. — Res. Gr. Stud., 1897-99; Non-Res. Stud., 1899-1900. — James Savage Scholar, 1897-98; Thayer Scholar, 1898-99. — Student of Economic Botany, in the East.
Entomologist and Botanist, Oklahoma Agricultural College and Experiment Station.

South End House Fellowship (special for 1900-02).

ROSWELL FOULK PHELPS.

S.B. (*Amherst Coll.*) 1899, A.B. 1900.
Student of Sociology at this University.

Travelling Fellowship in Botany (special for 1900-01).

CARLETON ESTEY PRESTON.

A.B. 1899, A.M. 1900. — Res. Gr. Stud., 1899-1900.
Student of Botany, in Arizona.

Of the twenty-five holders of fellowships in 1899-1900 fourteen are now engaged in teaching or in other professional work; eleven are teachers in colleges (three being professors) or universities (including two here), two are teachers in secondary schools, and the fourteenth is in the Canadian civil service. The remaining eleven of the twenty-five are continuing their studies, nine of them abroad, of whom eight hold travelling fellowships from this University; one only is a resident student at this University. Eight of the fellowship holders of 1899-1900 hold similar appointments for the present year.

The holders of fellowships consist of two classes of students: those who having ordinarily received a higher degree (Ph.D. or S.D.) are continuing studies and researches of a highly specialized sort for a year or two before taking up active professional work, and those whom the stipend of the fellowships enables to carry on studies normally for a higher degree, which they receive either at this University or at some other university, American or foreign. Thus of the twenty-five fellows in 1899-1900 six were already Ph.D.'s when they became fellows; eight received the Doctor's degree at the close of the year of their fellowship (seven Ph.D., one S.D.). Of the remaining eleven one was a Ph.B. only (of a Western university); two were A.B.'s and S.B.'s only; one was an S.M., and five were Harvard A.M.'s. Several of these men are known to have the doctor's degree in prospect.

FELLOWSHIPS AND SCHOLARSHIPS: APPLICATIONS AND APPOINTMENTS.

The following Table gives the usual statistics relative to the applications and appointments for the three years 1898-99, 1899-1900, and 1900-01:—

TABLE XI.—FELLOWSHIPS AND SCHOLARSHIPS (1898-1900).

1. *Applications and Appointments.*

	1898-99.	1899-1900.	1900-01.
Spring applicants for reappointment or promotion	47	48	51
Spring applicants for a first appointment . .	222	230	256
Later applicants	38 307	76 354	47 354
Appointed to fellowships	20	20	19*
Appointed to scholarships	48	58	57
Appointed instructors or assistants	14 82	21 99	27 103
Deduct for repetitions	2	1	1
	80	98	102
Entered or continued in the Graduate School without receiving any of the above-named appointments	76	64	66
Entered undergraduate classes of Harvard College	4	11	3
Entered other departments of the University	5 85	3 78	4 73
Applicants who were at the University in the year following their applications . .	165	176	175
Applicants not at the University in that year	142	178	179
	307	354	354

* These figures do not include the two John Harvard fellowships; the (special) Travelling Fellowship in Botany; the scholarships of the Harvard Clubs of Chicago, St. Louis, and San Francisco; or the Robert C. Winthrop Scholarship. A Thayer Scholarship is vacant; as also are three fellowships, indicated in the list above.

2. *Classification of Applicants and Appointees.*

	1898-99.		1899-1900.		1900-01.	
	Applicants.	Appointees.	Applicants.	Appointees.	Applicants.	Appointees.
Students of Philology	107	24	132	25	128	27
Students of Philosophy, History, or Political Science	106	19	119	24	123	23
Students of Mathematics, Physics, or Chemistry	55	17	62	17	61	15
Students of Natural History	35	7	37	11	38	11
Students of other branches, or unclassified	4	1	4	1	4	0
	307	68	354	78	354	76
Students in the Graduate School	115	43	111	51	110	49
Students in Harvard College	25	6	39	2	43	6
Students in other Departments of the University	6	1	7	1	3	1
Former students in some Department of the University	28	5	28	3	38	7
Persons never previously members of the University	133	13	169	21	160	13
	307	68	354	78	354	76
Harvard Bachelors of Arts or Science, not previously graduated elsewhere	35	16	37	15	31	8
Harvard Bachelors of Arts or Science, previously graduated elsewhere	21	5	15	5	24	6
Graduates of other institutions, not Harvard Bachelors of Arts or Science	207	42	244	54	237	59
Undergraduates of Harvard College, not already graduated elsewhere	19	5	26	2	28	3
Undergraduates of other institutions and other non-graduates	25	0	32	2	34	0
	307	68	354	78	354	76

The number of applicants in 1900 for fellowships and scholarships was exactly the same as in 1899, which was however much in excess of the numbers in previous years. The exceptionally large number of late applicants in 1899 was due to the widespread advertisement given in the summer vacation to the Austin Scholarships for teachers. The remarks made in my last report (p. 154) upon this table hold true, even in details, for the present report and need not be here repeated.

INSTRUCTORSHIPS AND ASSISTANTSHIPS.

A small proportion of the members of the Graduate School serve the University as instructors and assistants by regular appointment of the Corporation. These men find time both to do a certain amount of advanced work, often of research, and to give instruction or to aid other teachers in their instruction. The amount of their work in the School varies from a half-course to what is technically known as full work (four courses). In 1899-1900 five members of the School were appointed to instructorships, four to Austin teaching fellowships, and thirty-six to assistantships. In the current year there are, of the members of the School, six instructors and twenty-eight assistants under appointment of the Corporation. Besides these assistants, there are seventeen Austin teaching fellows, eleven only of whom, however, are members of the Graduate School. Our Table shows that many of the annual appointments to these positions are made from among applicants for fellowships and scholarships in the Graduate School.

Out of the three hundred and forty-one members of the School in 1899-1900, one hundred and thirteen,* or about thirty-three per cent., were holders of instructorships, assistantships, fellowships with stipends, or scholarships. Furthermore, other members of the School, as well as some of the foregoing, held proctorships and other like appointments by which their expenses in the School were reduced.

NEW FELLOWSHIPS AND SCHOLARSHIPS.

The year 1899-1900 was not marked by the foundation of many new fellowships and scholarships, as was the preceding year. The Austin Teaching Fellowships and the Austin Scholarships for Teachers, which were established at the close of the year 1898-99, were filled for the first time in 1899-1900. All the eight Austin Scholars were registered as members of the Graduate School, but of the eight Austin Teaching Fellows four only were thus registered. The Austin Scholars were, with one or two exceptions, teachers on leave of absence from colleges or secondary schools, and were all men of maturity and established reputation.

An interesting foundation is the Charles Eliot Norton Fellowship in Greek Studies, founded by James Loeb, Esq., of New York. It is open to members of the Senior Class, and of the Graduate

¹ Three only of these men held more than one of these appointments.

School, and to Seniors and Graduate students of Radcliffe College. It has an annual income of \$600, and in the award — which is made by a Committee of the Classical Department — no account is taken of the financial needs of the competitor. The incumbent is to pursue his studies at the American School of Classical Studies in Athens, and is to write and publish, at the end of the year of his fellowship, a monograph embodying the results of his investigations.

Six persons have offered to give one hundred dollars each for two years to be used for a fellowship to be called the South End House Fellowship, and to be devoted to the promotion of the study of social problems. The incumbent is to be nominated by the Department of Political Economy in consultation with the Plummer professor; he is to register as a student in the Graduate School and to be in residence at the South End House, Boston. He is to carry on work of investigation on social subjects under the supervision of the Department of Political Economy and the Plummer professor. In the appointment of the fellow, preference is to be given, among candidates equally deserving, to graduates of Harvard College. The fellowship has been conferred upon a Bachelor of Arts of the class of 1900, who also holds a Bachelor's degree from another college.

Certain graduates and friends of Harvard University in and near St. Louis founded in 1899-1900 the Scholarship of the Harvard Club of St. Louis, which is awarded to some competent student from Missouri, selected by the Club, who shall engage to pursue advanced studies in the Graduate School.

In the course of the year the Administrative Board had occasion to consider two matters of general interest, and to make recommendations thereon to the Faculty.

The Faculty had requested the Board to frame regulations for the newly founded Austin Teaching Fellowships. The Board, believing that it was desired in these appointments to emphasize the element of the scholar and the work of the student, as contrasted with that of the teacher, made certain recommendations; which with unessential modifications were adopted by the Faculty and transmitted to the Corporation in this form: —

(1) That every Austin Teaching Fellow be required to devote not less than half his working time to advanced study or research under the direction of his Division.

(2) That the amount of service to the University demanded of an Austin Teaching Fellow shall not be so great as to interfere with the prosecution of the advanced study or research required of him, and that it shall consist chiefly of actual instruction.

(3) That recommendations for appointments for Austin Teaching Fellowships be made by the several Divisions or Departments of the Faculty of Arts and Sciences to the Corporation, in the same manner as recommendations for Assistantships are now made.

The Corporation, however, laying greater stress on the teaching part of the functions of the Teaching Fellows, modified the first and second parts of the proposed regulations, and enacted them thus :—

(1) That every Austin Teaching Fellow be allowed to devote not more than half his working time to advanced study or research under the direction of his Division.

(2) That recommendations for appointments for Austin Teaching Fellowships be made by the several Divisions or Departments of the Faculty of Arts and Sciences to the Corporation, in the same manner as recommendations for Assistantships are now made.

For many years the proposition that the dissertations of Doctors of Philosophy and of Science should be printed and distributed has been discussed in the Board, and there has always been a consensus in favor of suitable publication. In the course of the year the Board gave special attention to this subject, and after much consideration recommended to the Faculty the adoption of the following regulations, in addition to those now in force :—

1. Each successful candidate for the degree of Doctor of Philosophy or Doctor of Science is required to deposit in the Harvard College Library one hundred and fifty printed copies of his thesis (with *vita*) within one year after receiving the degree, unless longer time is granted by special vote of the Division in which the degree is obtained.

2. By special vote of the Division concerned the printed copies thus deposited may be a revised form of the thesis, and, in exceptional cases, instead of the whole thesis, an abstract or essential part of it. In all such cases the material for publication must be approved by the Division concerned, and if less than the whole is printed the fact must be stated in the printed copies.

The Faculty has the question under consideration at the present time, but has as yet taken no definite action. The chief consideration urged against the proposition is the great expense which adequate publication would impose upon the student in some cases. Much the larger proportion of Harvard dissertations are now published in some form, either in the official publications of the several departments, by learned societies, in periodicals, or by private venture. A publication fund—like that of the Clarendon Press at Oxford—which could assist students in the publication of meritorious theses that might not be published at all but for such assistance would serve a very useful purpose.

In March, 1900, was published the second edition of the *Catalogue of the Graduate School* which contains the names and post-office addresses of all Doctors of Philosophy and of Science and Masters of Arts and Science who received their degree on examination (1878-1899), with statements about the degrees received and other information. The pamphlet contains the names of 1,144 persons, of whom 1,096 are believed to be living: Ph.D.'s, 213 (living, 200); Doctors of Science, 23 (living, 22); Masters of Arts, 1,054 (living, 1,014); Masters of Science, 11 (all living). Of the 236 Doctors of Philosophy and of Science, 77 took their degree in Philology (Classical, Germanic, English, Semitic, etc.); 24 in Philosophy; 25 in History; 11 in Political Science; 10 in Mathematics; 12 in Physics; 22 in Chemistry; 53 in Natural History; and 2 in American Archaeology and Ethnology. To this impressive list of Graduates before 1900 those of 1900 — one hundred and seventy-one in number — make a significant addition, being about fourteen per cent. of the number.

The formal opening meeting of the School for the current year (1900-1901) was held on Thursday evening, Oct. 4, in the Faculty Room. The Corporation, the Board of Overseers, officers of instruction and administration, and the members of the School were invited to be present. Over three hundred persons assembled, and listened to an address by Professor Goodwin — which appears in the *Harvard Graduates' Magazine* for December, 1900 — on the history of Graduate study in the United States and especially at this University, and on the essential nature and aim of advanced liberal study. Short addresses were made by Mr. J. H. Patten, President of the Graduate Club, and by the writer.

JOHN HENRY WRIGHT, *Dean*.

NOVEMBER 7, 1900.

THE DIVINITY SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to present the following statement in regard to the Divinity School for the year 1899–1900:—

There were enrolled in the School last year twenty-eight students—namely:—

Resident Graduates	7	Junior Class	10
Senior Class	5	Special Students	3
Middle Class	3		

Eighteen colleges were represented as follows:—

Bates College	1	Ohio State University	1
Bowdoin College	1	Ohio Wesleyan University	2
Brown University	1	Princeton University	1
Columbian University	1	Scio College	1
Cornell University	1	Tufts College	2
Harvard University	6	Union College	2
University of Missouri	2	University of Vermont	1
University of Nebraska	1	Waynesburg College	1
Oberlin College	1	Yale University	1

Seven theological seminaries were represented as follows:—

Auburn Theological Seminary	1	Newton Theological Institution	1
Bangor Theological Seminary	1	Oberlin College	1
Boston University	1	Western Theol. Sem., Ill.	1
Meadville Theological Seminary	4		

The degree of S.T.B. was taken by five members of the School, that of A.M. by four. Of the five members of the Senior Class, four were graduates of other seminaries and were here but a single year.

Professor Emerton was absent during the year, and his work was in part taken by Rev. Edward H. Hall, and by Professor C. H. Haskins of the University of Wisconsin.

The address at the opening of the year was by Professor Thayer. His subject was Recent Theories respecting the Lord's Supper.

A Summer School was held as in the preceding year, from July 5 to July 21. The number of students was 54, of whom two were women. All but two of the students were ministers and were connected with different denominations as follows: Orthodox Congrega-

tional 17, Universalist 14, Baptist 6, Unitarian 6, Disciples 3, Episcopal 3, Methodist 3.

The following is a list of the courses of the School and after each course given last year is a statement of the number of students taking it from the Divinity School, from the Graduate School, and from the College. Thirteen elections of College courses were made by Divinity students. There is appended to the list of regular courses a list of the lectures of the Summer School. Almost all of the students enrolled in the Summer School attended all its courses.

COURSES OF INSTRUCTION.

OLD TESTAMENT.

1. Professor LYON. — Hebrew. — Mitchell's Hebrew Lessons. Explanation of parts of Genesis and of the Psalm-book. 1 Div., 7 Col.
2. Professor TOR. — Hebrew (second course). — Syntax. — Interpretation of parts of the Prophets and Poetical Books. Text-criticism. 1 Col.
- 3¹ *hf.* Professor LYON — Jewish Aramaic. Kautzsch's *Biblisch-Aramäische Grammatik*. — Interpretation of parts of Ezra, Daniel, and the Targums. *Half-course*.
4. Professor LYON. — History of Israel, political and social, till the death of Herod the Great. Text-books, lectures, and theses. 6 Div., 2 Gr., 45 Col.
5. Professor TOR. — History of pre-Christian Hebrew Literature. 2 Div., 2 Col.
6. Professor TOR. — History of the Hebrew Religion, with comparison of other Semitic religions. 2 Div., 2 Col.
7. Professor LYON. — Assyrian. Lyon's Assyrian Manual. Delitzsch's Assyrian Grammar. Abel and Winckler's *Keilschrifttexte*.
8. Professor LYON. — Assyrian (second course). — Delitzsch's Assyrian Grammar. The Chaldean Epic. Letters and Commercial Documents. 2 Col.
20. Research courses. The instructors arrange and supervise for any properly prepared student a line of special study on such topic as may be agreed on.

NEW TESTAMENT.

- 1¹ *hf.* Professor THAYER. — New Testament Times. — The political, social, moral, and religious condition of the world when Christ appeared. *Half-course*. 7 Div.
- 2² *hf.* Professor THAYER. — New Testament Introduction. — The origin, contents, and history of the New Testament writings, together with the formation of the Canon. *Half-course*. 7 Div.

The Board of Overseers, at their meeting November 15, 1899, unanimously consented to these amendments of the Statutes.

A new Faculty of Medicine was thus constituted, in accordance with the advice of the Medical Faculty as expressed in the declaration of November 4, 1899, above quoted.

William L. Richardson, A.M., M.D., was elected Dean, November 27, and confirmed by the Overseers, December 13, 1899.

Charles M. Green, A.B., M.D., on November 27, 1899, was appointed by the Corporation to be Secretary of the Faculty for the year 1899-1900.

In accordance with the recommendation of the Administrative Board of the Dental School, the Faculty voted to add Theoretical and Descriptive (Inorganic) Chemistry and Qualitative Analysis to the subjects required for admission to the Dental School, the change to go into effect in and after June, 1902.

It was also voted that after this same date the examinations that are now required for entrance to the Dental School should be demanded for admission to the Veterinary School.

The courses in Anatomy, Histology, and Physiology, for the first-year Dental students were made the same as those given to first-year Medical students, and the students of both Schools were required to pass the same examinations in these subjects.

Numerous changes looking to an increase in the quantity and an improvement in the quality of the instruction given in the various branches of Medicine and Surgery in the Medical School were introduced. The main feature in these changes was an increase in the amount of sectional teaching.

It was decided to discontinue hereafter the optional course in Cookery that has heretofore been offered to the fourth class of the Medical School.

At the close of the academic year, 175 men were recommended to the Corporation for degrees as follows: —

Medical School . .	{ For the degree of M.D.	84
	“ “ “ <i>cum laude</i> . . .	51
Dental School . .	{ For the degree of D.M.D.	29
	“ “ “ <i>cum laude</i> . . .	4
Veterinary School .	{ For the degree of M.D.V.	5
	“ “ “ <i>cum laude</i> . . .	2
Total		175

It was voted that hereafter the degree of M.D. *cum laude* should only be given to those candidates who have obtained an average of

CHURCH HISTORY.

1. Asst. Professor PLATNER. — The Church of the first six centuries.
6 Div., 3 Gr.
2. Professor EMERTON. — The Mediaeval Church. — Formation of national churches in the Germanic states; establishment of the mediaeval papacy and its development to be the controlling force in European affairs; the Holy Roman Empire.
3. Professor EMERTON. — The Era of the Reformation in Europe from the rise of Italian Humanism to the close of the Council of Trent, 1350–1563.
- 3a¹ hf. Professor HASKINS. — The Early Reformation Period (1300–1500).
Half-course. 2 Div., 5 Gr., 5 Col.
4. Asst. Professor PLATNER. — History of the Church since the Reformation.
2 Div., 1 Gr., 2 Col.
5. Professor EMERTON. — History of Christian Thought, considered in its relation to the prevailing philosophy of each period from the earliest time to the eighteenth century.
- 5a. Mr. HALL. — The Development of Christian Doctrine during the first three centuries. 2 Div.
- 6² hf. Professor EMERTON. — Selected topics from the Canon Law, with reference also to the principles of Protestant Church Law. *Half-course.*
- 9 hf. Asst. Professor PLATNER. — Symbolics. *Half-course.* 1 Div.
- 20a. Professor EMERTON. — Advanced study and research.
- 20b. Asst. Professor PLATNER. — Seminary in the History of Early Christian Literature.

SOCIAL QUESTIONS.

1. Professor PEABODY. — The Ethics of the Social Questions. — The modern social questions: Charity, the Family, Temperance, and various phases of the Labor question in the light of ethical theory. — Lectures, special researches, and required reading. 10 Div., 10 Gr., 84 Col., 2 Sci.
20. Professor PEABODY. — Sociological Seminary. Subject for the year: The Christian Doctrine of the Social Order. 4 Div., 1 Gr.

COMPARATIVE STUDY OF RELIGIONS.

1. Professor EVERETT. — Comparative Study of Religions, particularly the Vedic Religion, the Hindu Philosophies, Buddhism, Mazdaism, and the Chinese Religions. 8 Div., 4 Gr., 12 Col.

THEOLOGY.

- 2 hf. Professor EVERETT. — The Psychological Elements of Religious Faith. *Half-course.* 11 Div., 7 Gr., 17 Col.
3. Professor EVERETT. — Systematic Theology. Theism and the special content of Christian faith. An elaborate essay on some theological subject is expected from each student taking this course. 7 Div.
20. Professor EVERETT. — Theological Seminary. — Subject for the year: Kant and the Ritschlians. 3 Div., 3 Gr.

HOMILETICS AND PASTORAL CARE.

- 1 hf. Asst. Professor HALE. — The structure and analysis of sermons. *Half-course.* 7 Div.
- 2 hf. Professor PEABODY and Asst. Professor HALE. — Each student writes five or six sermons during the year, three of which are preached before the class and criticised by students and instructor; and the rest criticised privately, as to composition and delivery. in preparation for the public preaching named below. *Half-course.* 13 Div.
- 3 hf. Professor PEABODY. — The Minister as Pastor, and the history of Christian worship. *Half-course.*
- 4 hf. Professor PEABODY. — The Minister as Preacher, and the history of Christian preaching. *Half-course.* 8 Div.
- 5 hf. Asst. Professor HALE. — The Minister as Organizer and Director of Church Activities. *Half-course.* 3 Div.

ELOCUTION.

- 1 hf. Dr. CURRY. — Vocal training. *Half-course.*
- 2 hf. Dr. CURRY. — Vocal expression. *Half-course.* 10 Div.

SUMMER SCHOOL OF THEOLOGY.

THE HISTORY OF RELIGIONS.—THE RELIGIONS OF INDIA.

Professor MAURICE BLOOMFIELD.—Four lectures: The Religion of the Vedic Hymns.

Professor EVERETT. — Three lectures: Hindu Philosophies.

Professor CHARLES R. LANMAN. — Four lectures: Buddhism.

Professor E. WASHBURN HOPKINS. — Four lectures: Later Hindu Religions.

THE NEW TESTAMENT.

Professor FRANK C. PORTER. — Four lectures: Jewish Religious Thought in the Time of Christ.

Professor ERNEST D. BURTON. — Four lectures: Paulinism.

Asst. Professor ROPES. — Three lectures: Ancient and Modern Presentations of the Apostolic Age.

Professor THAYER. — Four lectures: The Revised Version of the New Testament.

HOMILETICS.

The course consisted of an introductory lecture and a series of practical exercises in preaching before the instructor and members of the class.

The instructors were Professor PEABODY, Dr. GEORGE A. GORDON, Professor GEORGE HODGES, Professor CHARLES H. LEONARD, President CHARLES CUTHBERT HALL, Asst. Professor HALE.

During the year from October 1, 1899, to September 30, 1900, there were added to the Divinity Library 371 volumes and 32 pamphlets by purchase, and 208 volumes and 221 pamphlets by gift. October 1, 1900, there were in the Library 30,023 volumes and 6,832 pamphlets. During the year there were 1,299 titles catalogued in the author catalogue and 183 titles in the subject catalogue. There were borrowed from the stack for home use 1,311 volumes; from the stack for hall use, 504 volumes; from the reserved books for over night use, 663 volumes.

ROBERT S. MORISON,
Secretary of the Faculty.

THE LAW SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor of presenting my report upon the Law School for the academic year 1899–1900.

The table on pages 170, 171 gives the courses of study and instruction during the year, the text-books used, the number of exercises per week in each course, and the number of students who offered themselves for examination in each course at the end of the year.

During the twelve months from October 1, 1899, to October, 1900, 6,209 bound volumes and 480 pamphlets were added to the library. The library contained, October 1, 1900, about 56,600 volumes and 6,600 pamphlets.

The table on the next page exhibits the growth of the School, during the last thirty-one years, in the number of students, the number and percentage of college graduates, and in the number of colleges represented by their graduates. The figures for the current year will be slightly increased by later entries.

The number of non-graduates, 49, is somewhat misleading. Thirty-four of these are Harvard College Seniors, on leave of absence and registered in the Law School, of whom thirty have completed the work required for the degree of A.B., and four lack only a single course or a half-course. If these 34 seniors be transferred to the College Graduate column, we have 635 graduates, and the percentage of college graduates rises from 92 to 98.

Year.	Whole No. of Students.	Total of College Graduates.	Harvard Gradu- ates.	Graduates of other Colleges.	Non- Gradu- ates.	Per cent. of College Graduates.	No. of Col- leges rep- resented.
1870-71	165	77	27	50	88	47	27
1871-72	138	70	34	36	68	51	25
1872-73	117	66	34	32	51	56	25
1873-74	141	86	49	37	55	61	25
1874-75	144	82	63	19	62	57	18
1875-76	173	93	60	33	80	54	25
1876-77	199	116	74	42	83	58	30
1877-78	196	121	80	41	75	62	30
1878-79	169	109	71	38	60	64	24
1879-80	177	118	90	28	59	66	20
1880-81	161	112	82	30	49	70	19
1881-82	161	99	66	33	62	61	22
1882-83	138	93	58	35	45	67	32
1883-84	150	105	75	30	45	70	25
1884-85	156	122	85	37	34	78	31
1885-86	158	122	83	39	36	77	29
1886-87	188	143	88	55	45	76	34
1887-88	225	158	102	56	67	70	32
1888-89	225	158	105	53	67	70	32
1889-90	262	189	122	67	73	72	41
1890-91	285	200	135	65	85	70	33
1891-92	370	257	140	117	113	69	48
1892-93	405	266	132	134	139	66	54
1893-94	367	279	129	150	88	76	56
1894-95	413	310	139	171	103	75	74
1895-96	475	380	171	209	95	80	82
1896-97	490	408	186	222	82	83	82
1897-98	551	490	229	261	61	89	77
1898-99	564	503	212	291	61	89	78
1899-00	613	557	236	321	56	91	67
1900-01	650	601	250	351	49	92	83

Instructors.	Studies and Text-books.	Exercises per week.	Number of students examined.
First Year.			
Prof. Williston	Contracts. Cases on Contracts : Langdell, vol. 1, 2d ed., Williston, vol. 1 . .	3	238
Prof. Gray	Property. Gray's Cases on Property, vol. 1, 2	2	244
Prof. Smith	Torts. Cases on Torts : Ames, vol. 1, 2d ed., Smith, vol. 2	2	241
Asst. Prof. Westengard	Civil Procedure at Common Law. Ames's Cases on Pleading	1	234
Prof. Beale }	Criminal Law and Procedure. Beale's Cases on Criminal Law	2	231
Mr. Bigelow }			
Second Year.			
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	170
Prof. Brannan	Bankruptcy. No text-book	1	5
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes . .	2	65
Prof. Beale	Carriers. McClain's Cases on Carriers and Beale's Cases on Carriers	1	58
Prof. Wambaugh	Contracts and Quasi-Contracts. Keener's Cases on Quasi-Contracts	2	5
Prof. Thayer	Evidence. Thayer's Cases on Evidence	2	184
Prof. Wambaugh	Insurance, Marine, Fire, and Life. Wambaugh's Cases on Insurance	2	13
Prof. Langdell	Jurisdiction and Procedure in Equity. Langdell's Cases in Equity Pleading . .	2	19
Prof. Smith	Law of Persons. Smith's Cases on Persons	1	4
Asst. Prof. Westengard	Property. Gray's Cases on Property, vol. 3, 4	2	188
Prof. Ames	Sales of Personal Property. Williston's Cases on Sales	2	102
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	181

Third Year.

Prof. Beale	Conflict of Laws. No text-book	2	28
Prof. Thayer	Constitutional Law. Thayer's Cases on Constitutional Law	3	105
Prof. Smith	Corporations. Smith's Cases on Private Corporations. Smith's Cases on Municipal Corporations	2	149
Prof. Strobel	International Law as administered by the Courts	2	11
Prof. Langdell	Jurisdiction and Procedure in Equity. No text-book	2	18
Prof. Brannan	Partnership. Ames's Cases on Partnership	2	38
Prof. Gray	Property. Gray's Cases on Property, vol. 5, 6	2	58
Prof. Ames	Suretyship and Mortgage. Ames's Cases on Suretyship	1	92
Prof. Wambaugh	Agency. Wambaugh's Cases on Agency	2	8
Prof. Williston	Bankruptcy. No text-book	1	49
Prof. Brannan	Bills of Exchange and Promissory Notes. Ames's Cases on Bills and Notes	2	24
Prof. Wambaugh	Contracts and Quasi-Contracts. Keener's Cases on Quasi-Contracts	2	20
Prof. Thayer	Evidence. Thayer's Cases on Evidence	2	6
Prof. Wambaugh	Insurance, Marine, Fire, and Life. Wambaugh's Cases on Insurance.	2	54
Prof. Langdell	Jurisdiction and Procedure in Equity. Langdell's Cases in Equity Pleading	2	16
Prof. Smith	Law of Persons. Smith's Cases on Persons	1	43
Mr. Dodge	Property II. Gray's Cases on Property, vol. 3, 4	2	7
Mr. Swift	Sales of Personal Property. Williston's Cases on Sales	2	34
Prof. Ames	Trusts. Ames's Cases on Trusts (2d ed.)	2	6
Prof. Beale	Carriers. McClain's Cases on Carriers and Beale's Cases on Carriers	1	52
Prof. Gray	Comparative Jurisprudence. No text-book	1	

After a service in the cause of legal education unrivalled in the past, and not likely to be matched in the future, Professor Langdell retires from the Law Faculty. When he came to Cambridge thirty years ago, he entered a faculty of three professors giving ten lectures a week in a school of 115 students and conferring the degree after one year of residence upon persons "admitted to the School without any evidence of *academic* requirements and sent from it without any evidence of *legal* requirements." He leaves a Faculty of ten professors, seven of them his former pupils, giving more than fifty lectures a week to over 600 students and bestowing the degree upon college graduates after three years of residence and the passing of three annual examinations. In 1870 the Treasurer's books disclosed a deficit. In 1900 the surplus is large enough to build an extension of Austin Hall greater than the original building and is about to be so applied. He found here the wreck of a library. He leaves a library without a peer among the law libraries of the world.

Of these changes Professor Langdell was not *magna* but *maxima pars*. The most fruitful change of all, however, has been the revolution effected by him in the matter of teaching and studying law, a revolution that has spread and is spreading so rapidly to other schools, that in a few years his views may be expected to dominate legal education throughout the United States.

Professor Langdell has richly earned the right of dignified contemplative repose with the satisfaction of watching the progress of this School along the lines marked out by himself, and the growing influence of his ideas in other schools. It is, however, a great pleasure to his colleagues to know that he is to retain his room in Austin Hall and that he will add to his services to the School and to the legal profession by devoting to writing the hours he formerly gave to teaching.

JAMES BARR AMES, *Dean*.

THE FACULTY OF MEDICINE.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean, I have the honor to submit the first report of the Faculty of Medicine.

At a meeting of the Medical Faculty, November 4, 1899, after general discussion, by a vote of twenty-two in favor to five opposed, it was voted that the Dean be authorized to send to the President and Fellows of Harvard College the following declaration:—

The Medical Faculty advise the Corporation and Board of Overseers to consolidate the Faculties now known as the Medical, Dental, and Veterinary Faculties, and to entrust to this new Faculty, to be known as the Faculty of Medicine, the administration of the existing degrees of M.D., D.M.D., and M.D.V., and of a higher degree in Comparative Medicine.

They further advise that an Administrative Board be appointed for each of the three Schools; that the Dean of the new Faculty be the Dean of the Medical School; and that at the beginning full professors only be brought into the consolidated Faculty from the Dental and Veterinary Faculties, but that the Administrative Boards of the three Schools may contain instructors who are not members of the new Faculty.

They would also advise that the titles of the professors of the Dental and Veterinary Schools should in all cases designate the Schools to which they belong.

The President and Fellows of Harvard College, at a meeting held November 13, 1899, unanimously voted to amend the Statutes of the University, as follows:—

STATUTE 6. FACULTIES:—

After the word "Sciences" insert "The Medical School, the Dental School, and the School of Veterinary Medicine are together under the immediate charge of a Faculty—the Faculty of Medicine." At the end of the sentence which begins "Each Faculty is composed," and ends "under the charge of that Faculty," insert "except that from the Dental School and the School of Veterinary Medicine, Professors only are members of the Faculty of Medicine."

STATUTES 7. DEANS:—

After the word "Sciences" insert "The Medical School, the Dental School, and the School of Veterinary Medicine also have each a Dean, who is appointed by the Corporation with the consent of the Overseers, from among the members of the Faculty of Medicine."

The Board of Overseers, at their meeting November 15, 1899, unanimously consented to these amendments of the Statutes.

A new Faculty of Medicine was thus constituted, in accordance with the advice of the Medical Faculty as expressed in the declaration of November 4, 1899, above quoted.

William L. Richardson, A.M., M.D., was elected Dean, November 27, and confirmed by the Overseers, December 13, 1899.

Charles M. Green, A.B., M.D., on November 27, 1899, was appointed by the Corporation to be Secretary of the Faculty for the year 1899-1900.

In accordance with the recommendation of the Administrative Board of the Dental School, the Faculty voted to add Theoretical and Descriptive (Inorganic) Chemistry and Qualitative Analysis to the subjects required for admission to the Dental School, the change to go into effect in and after June, 1902.

It was also voted that after this same date the examinations that are now required for entrance to the Dental School should be demanded for admission to the Veterinary School.

The courses in Anatomy, Histology, and Physiology, for the first-year Dental students were made the same as those given to first-year Medical students, and the students of both Schools were required to pass the same examinations in these subjects.

Numerous changes looking to an increase in the quantity and an improvement in the quality of the instruction given in the various branches of Medicine and Surgery in the Medical School were introduced. The main feature in these changes was an increase in the amount of sectional teaching.

It was decided to discontinue hereafter the optional course in Cookery that has heretofore been offered to the fourth class of the Medical School.

At the close of the academic year, 175 men were recommended to the Corporation for degrees as follows:—

Medical School . .	{	For the degree of M.D.	84
		“ “ “ <i>cum laude</i> . . .	51
Dental School . .	{	For the degree of D.M.D.	29
		“ “ “ <i>cum laude</i> . . .	4
Veterinary School .	{	For the degree of M.D.V.	5
		“ “ “ <i>cum laude</i> . . .	2
Total			175

It was voted that hereafter the degree of M.D. *cum laude* should only be given to those candidates who have obtained an average of

eighty per cent. or over in all the required examinations. By this vote the standard of the degree *cum laude* is raised five per cent.

The crowded condition of the Medical School building; the necessity in the immediate future of providing a new home for the Dental School, and the desired enlargement of the accommodations at present at the disposal of the Veterinary School, all call for some action looking to new quarters for the various departments of the University under the charge of the Faculty of Medicine.

At a meeting of the Faculty, held June 9, Drs. J. C. Warren, W. L. Richardson, H. P. Bowditch, E. H. Smith, W. F. Whitney, H. C. Ernst, and F. Cobb were appointed a Committee to consider plans for new buildings and the Corporation was requested to designate an architect with whom the Committee could consult.

WILLIAM L. RICHARDSON, *Dean*.

THE MEDICAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As Dean of the Medical Faculty, I have the honor to submit the following report upon the Medical School for the academic year 1899–1900:—

During the past year the new plan of instruction for the first and second years has been in operation and the results show the changes to be in the right direction. It will be seen from the reports of the various departments that, with the exception of Clinical Chemistry, the Professors in charge are satisfied that marked improvements have been made in the methods of instruction and, so far, better results have been obtained. Although much time has been spent on the subject, no practical readjustment of the studies of the third and fourth years has yet been accomplished. On the other hand, many changes have been made looking to a more personal supervision of the students. The main features of these changes have been a great increase in the amount of sectional teaching and the combining of practical with written examinations.

Immediately after the consolidation of the Medical, Dental, and Veterinary Schools under a Faculty of Medicine, the following Administrative Board for the Medical School was appointed for the year: Drs. W. L. Richardson, J. C. Warren, E. S. Wood, F. C. Shattuck, W. F. Whitney, C. M. Green, C. Harrington, F. Dexter, and F. B. Mallory. Dr. C. M. Green was subsequently chosen Secretary of the Board.

Building.—No extensive changes in the building have been required. The most important work which has been done is as follows:—

Three back-water valves have been placed on the main drain pipes of the building in order to prevent the flooding of the basement during the severe thunder showers in the summer, which has frequently occurred.

A new floor has been required for the students' toilet room, and new supports for the plumbing in that room.

The runs for the elevator doors have been replaced by iron ones to ensure the automatic closing of the doors.

The electric wiring in the dissecting room has been entirely changed so that each table is provided with a special switch.

Some of the old wiring was found to be imperfect and consequently dangerous; all this has been repaired.

Physiology.—The following papers containing the results of investigations in the laboratory have been published:—

Notes on the individual psychophysiology of the crayfish. By GEORGE V. N. DEARBORN. *The American Journal of Physiology*, Vol. III, pp. 404–433.

The relation of the depressor nerve to the vaso-motor centre. By W. T. PORTER and H. G. BEYER. *The American Journal of Physiology*, Vol. IV, pp. 283–299.

Experiments concerning the prolonged inhibition said to follow injuries of the spinal cord. By W. T. PORTER and W. MÜHLBERG. *The American Journal of Physiology*, Vol. IV, pp. 300–308.

The physiological effects and the nature of extracts of sympathetic ganglia. By A. CLEGHORN. *Journal of the Boston Society of Medical Sciences*, Vol. IV, pp. 239–242.

Communications on the following subjects have been presented to the American Physiological Society:—

The reaction time of inhibition. By A. CLEGHORN and C. C. STEWART. *The American Journal of Physiology*, Vol. IV, p. 21.

The vasomotor nerves of the heart. By W. T. PORTER and H. G. BEYER. *The American Journal of Physiology*, Vol. III, p. 24.

Apparatus for laboratory work in large classes. By W. T. PORTER. (Not published.)

There have also been published:—

The Medical School of the future. By H. P. BOWDITCH. *Science*, Vol. XI, pp. 681–696, and *Transactions of the Fifth Congress of American Physicians and Surgeons*, May, 1900.

The teaching of Physiology. By W. T. PORTER. *The Philadelphia Medical Journal*, Sept. 1, 1900, pp. 379–384.

The following papers are in press:—

On the measurement of voluntary muscular force and fatigue. By S. I. FRANZ. *The American Journal of Physiology*, Vol. IV.

Changes in blood pressure caused by muscular exercise. By J. H. MCCURDY. *The American Journal of Physiology*, Vol. IV.

An introduction to Physiology. Part I: The Physiology of nerve and muscle. Part II: The circulation of the blood. By W. T. PORTER. The University Press, Boston.

Additional experiments for students in Physiology. By W. T. PORTER. The University Press, Boston.

The results of experiments on "The direct action of nicotin upon the mammalian heart," made by Dr. H. G. Beyer, in part with the assistance of Professor W. T. Porter, have been published by Dr. Beyer in *Contributions to the Science of Medicine*, dedicated to William Henry Welch, pp. 111-134. Studies not yet complete have been made by W. T. Porter and W. Muhlberg on "The action of the papillary muscles"; by G. V. N. Dearborn on "The respiration of Anolis," and on several psychological subjects; by A. Matthews on "Hippuric Acid," and on "Salivary secretion"; by W. B. Cannon on "Cerebral pressure"; by A. Cleghorn on "Growth and muscular activity," and (assisted by Mr. H. Lloyd) on "The effects of carbon dioxide on unstriated muscle"; by L. J. Henderson on "The physical chemistry of blood-plasma."

An important change in the work of this department was introduced during the past year. The instruction was given wholly during the second term. The early morning hours of each day were devoted to practical laboratory work in which the students performed for themselves the principal fundamental experiments of nerve-muscle physiology and of the physiology of the circulation. This exercise was followed by a physiological conference and the last hour of the forenoon was devoted to a didactic lecture which, as far as possible, treated of the subjects which had occupied the students' attention in the laboratory. The afternoons were chiefly devoted to the study of physiological chemistry, but during the month of May a special course of lectures on the physiology of vision was delivered in the afternoon, and special lectures descriptive of the lecturers' own investigations were given by Drs. Dearborn, Franz, Muhlberg, and Cleghorn. During this first year of the new method the work was of course largely tentative in its character and important improvements can and will be made. The results, however, are distinctly encouraging. The students have displayed an increased interest in their work and have shown a power to grasp the problems presented to them which naturally follows from personal contact with experimental work.

Anatomy.—The work of the department has gone on as usual. Professor Dwight has completed his work on the variations of the spine which will probably be published before the end of the year. Dr. Dexter has also devoted himself to original work. The collection of variations and anomalies has received some very valuable additions.

In May a course on surface anatomy on the live model was offered to small sections as a voluntary exercise and was taken by about one

hundred students. It proved an excellent supplement to the previous instruction. Two students devoted themselves to arranging groups of bones in the Museum, illustrating the range of variations. Professor Dwight also gave a short course of lectures on philosophical anatomy which was well attended.

The experience of the Anatomical Department with the new course of instruction does not justify any final conclusions. At the beginning of the first year the students received a great deal of attention in their laboratory work; the lectures, dealing mostly with general principles and with points needing special elucidation, being much reduced in number. A practical examination was held at the beginning of the second half-year. The result of this examination and the general impression of those in charge of the course was very favorable to the new method, but it is to be remembered that these students are to go without any anatomical instruction till the beginning of the second half of the second year, when they are to have Anatomy for only a comparatively small part of the time during two months. How much even the best men will then remember of what they have left off a year before remains to be seen, and, till it is seen, no final judgment can be made. There is no doubt that, assuming the time allotted to it is sufficient, the new method has worked well.

Histology and Embryology. — The new plan of instruction was in force during the past year, with great advantage to the students, whose knowledge was on the whole far more thorough, as well as more extended, and more completely retained. The examination showed a slight increase in the number of "A" men, a marked increase in the "B" and "C" men, while the number of "D" men was little changed, because the number of students conditioned was much diminished. The new method has apparently helped the best men little, but has helped the average and the inferior men very much indeed. The strain of teaching was very severe on the staff, but they felt compensated by the comparative leisure of the second half-year.

The growth of the department has shown that the space available is wholly inadequate for the accommodation of the students and instructors. An entirely new laboratory is urgently needed, not merely for future development but for immediate necessities.

The embryological collection has made encouraging growth, complete serial sections of one hundred and twenty-two carefully selected typical vertebrate embryos having been added during the year. The collection now contains three hundred and seventy-two series, more than one third the number necessary to complete the original plan.

Otology. — Professor BLAKE, Professor J. O. GREEN, Assistant HAMMOND.	116 students examined.
Laryngology. — Instructor DEBLOIS, Instructor FARLOW, Instructor COOLIDGE.	119 students examined.
Legal Medicine. — Professor DRAPER, Instructor E. W. DWIGHT.	119 students examined.
Syphilis. — Instructor POST.	122 students examined.
Orthopedics. — Asst. Professor BRADFORD.	80 students examined.
Hygiene. — Asst. Professor HARRINGTON.	131 students examined.
Mental Diseases. — Instructor COWLES, Instructor LANE.	
Ovarian Tumors. — Instructor HOMANS.	
Genito-Urinary Surgery. — Instructor WATSON, Assistant THORNDIKE.	
Municipal Sanitation. — Lecturer DURGIN.	

Fourth Year Electives.

Ophthalmology. — Professor WADSWORTH.	3 students examine
Otology. — Professor BLAKE, Professor J. O. GREEN, Assistant HAMMOND, Assistant CROCKETT.	4 students examine
Dermatology. — Instructor BOWEN, Assistant C. J. WHITE.	57 students examine
Diseases of the Nervous System. — Professor PUTNAM, Instructor WALTON, Instructor KNAPP.	6 students examine
Gynecology. — Asst. Professor C. M. GREEN.	11 students examine
Operative Obstetrics. — Asst. Professor C. M. GREEN, Instructor REYNOLD, Assistant HIGGINS, Assistant NEWELL.	59 students examine
Operative Surgery. — Professor C. B. PORTER, Assistant MIXTER, Instructor MONKS, Assistant CONANT, Assistant SCUDDER.	88 students examine
Bacteriology. — Professor ERNST, Assistant COOLIDGE, Assistant DENNY, Assistant PERRY, Assistant PAGE.	6 students examine
Orthopedics. — Asst. Professor BRADFORD.	43 students examine
Clinical Microscopy. — Curator WHITNEY.	5 students examine
Clinical Chemistry. — Professor WOOD, Assistant HEWES, Assistant OGDEN.	4 students examine
Anatomy. — Demonstrator BROOKS.	14 students examine
Embryology. — Professor MINOT, Demonstrator SCHAPER.	1 student examine
Histology of the Nervous System. — Professor MINOT.	2 students examine
Physiological Chemistry. — Instructor PFAPF.	2 students examine
Comparative Etiology of Infectious Diseases. — Professor SMITH.	4 students examine
Physiology. — Professor BOWDITCH.	1 student examine

formed the basis of two evening lectures given to the students of the School, as well as of a short article entitled "The Development of the Microscope." *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 148. A beginning has also been made in the formation of a collection of old type microscopes for the School, to which about fifteen instruments have already been contributed.

A demonstration of Actinomycosis and its causative fungus in the udder of the cow. Read at the First Annual Meeting of the Society of American Bacteriologists, and published in the *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 244.

Studies in the mechanism of agglutination, with W. H. Robey, Jr. Presented at the meeting of the Congress of American Physicians and Surgeons at Washington, in May, and printed in their *Transactions*, as well as in the *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 219.

Assisted Dr. H. P. Bowditch in the preparation of the remonstrance to the House Bill "for the further restriction of cruelty to animals," and summed up the testimony for the remonstrants before the Joint Committee of the Senate and House (Legislature of Massachusetts); the "summing-up" was published in the *Boston Medical and Surgical Journal* for July, 1900.

Delivered the oration on The Progress of Medicine before the Norfolk District Medical Society, at their semi-centennial celebration in May, 1900. Published in the *Boston Medical and Surgical Journal*, August, 1900.

Wrote the volume "Prophylactic Hygiene" (in press), P. Blakiston Sons' Co.

Delivered two lectures on general and specific bacteriology to the Cuban teachers in Sanders Theatre, the text of which was written out for translation and publication in Havana.

Dr. C. G. Page has carried on his studies on a peculiar diplococcus found in the throats of scarlet fever patients.

Dr. F. P. Denny published a report on the examination for diphtheria bacilli of cultures from four hundred and seventy-five healthy individuals (*Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 189) and carried on a study of the constancy of branching forms of diphtheria bacilli after passage through a series of guinea pigs.

Dr. H. J. Perry has made some studies of the methods of cultivation and differentiation of the *Smegma bacillus*.

Dr. W. H. Robey, Jr., has made a prolonged and careful study of the mechanism of agglutination in conjunction with Professor

H. C. Ernst, and also of the methods of staining flagella. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 272.

Dr. Langdon Frothingham has been preparing statistics for an article "The diagnosis of Glanders by the Strauss method," and has been carrying on an investigation on the prevalence of rabies.

Professor F. P. Gorham, of Brown University, has continued his studies of the phosphorescent bacteria.

Dr. S. A. Hopkins has also continued his studies on the bacteria of dental caries, a preliminary report of which appeared in *Dental Cosmos*.

Mr. J. H. Cunningham, Jr., completed his studies on *Saprolegnia Ferax* and their application to the trout hatchery (*Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 55) and made some preliminary investigations of certain pathogenic bacteria.

Dr. Benjamin Tenney, with Dr. F. W. Stetson and Messrs. Palfrey, Goodall, Hollister, and Baker, have been engaged in the preliminaries of an investigation of the question of the specific nature of the gonococcus, to determine whether its presence always means the previous existence of a specific urethritis.

Professor Marshall O. Barber has been carrying on work in Berlin, in connection with this laboratory, upon the influence of certain bacteria and moulds upon each other in various culture media.

Chemistry.—During the past year Professor Hills has continued the investigation of the proteids of the urine, mentioned in the last report of the Medical School.

The changes in the methods of instruction, which were inaugurated the past year, have worked very satisfactorily in this department. More ground has been covered in the same number of hours than under the former system. An increased interest on the part of both the instructors and students in the work of the course, and a more constant attendance, undiminished to the end of the course, were noticeable. The books written at the time of the final examination were unusually good, and the class as a whole got more out of the course than it would have under the former method.

The change in the system of instruction in the second year Chemistry, which went into effect during the past year, made it necessary that all of the instruction in Chemistry be given during the second half-year. This required that each student should work in the laboratory eight hours a week during the half-year, instead of four hours a week during the whole year, as heretofore. For this concentration of instruction a larger number of teachers was required,

eight assistants instead of four being employed in giving the instruction in Clinical Chemistry to the second class.

This change did not result as satisfactorily for the students as in some of the other departments, chiefly for two reasons: one, because there is not so large a variety of material in the hospitals during the four months from February 1 to June 1; and the other, perhaps more important reason, because, in addition to his work in Chemistry, the student begins his visits to the hospitals, and is also obliged to pay attention to many other branches, namely, Clinical Medicine, Theory and Practice, Auscultation, Anatomy, Therapeutics, Pharmacology and Surgical Pathology, so that his time is divided among a much larger number of studies during this half-year than during the three previous half-years of medical study. The students, therefore, as a class, are not as well founded in Clinical Chemistry under the new system as before.

During the year the following publications have appeared:—

Clinical examination of the urine and urinary diagnosis. A text-book of 416 pages, by Dr. OGDEN. Published by W. E. Saunders & Co., Philadelphia.

A study of the chemistry of the stomach in health and disease. By Dr. HEWES. Published in the *Boston Medical and Surgical Journal*, May 17, 1900.

A text book of Physiology and Hygiene for high schools. By Dr. HEWES. Published by The American Book Co., New York, 1900.

Experimental Pharmacology and Therapeutics.—The following publications of special investigations were made during the year:—

Uric acid and epilepsy. By Dr. J. J. PUTNAM and Professor FRANZ PFAFF. *Transactions of the Association of American Physicians*, 1890.

On the influence of defibrination on the secretion of the kidney. By Professor FRANZ PFAFF and Dr. M. VEJUX-TYRODE. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 261.

A possible cause of Azoturia. By Dr. A. W. BALCH. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 234.

Pathology.—The change in the character of the instruction in Pathology has been productive of excellent results. The essential features of the new method are concentration of study—the entire first term of the second year being devoted to Pathology and the allied subject of Bacteriology—and the substitution to a large extent of laboratory work and demonstrations for lectures. The students were required to see and describe the lesions they studied, and

lectures were used for the purpose of extending and correlating the knowledge they had acquired by objective study. The effect on the students of such instruction was seen in the greater interest taken in the course, and the increased gain in knowledge as compared with former years. A much greater amount of instruction was given at the laboratories of the Boston City Hospital and Massachusetts General Hospital than has heretofore been the case. The standing of the students was based partly on the character of the work done by each man in the laboratory, and partly on the result of a practical written and oral examination. Five men only out of a class of one hundred and fifty-three failed to obtain the requisite standing.

The following original articles by the various men connected with the department have appeared or been accepted for publication : —

An anatomical and bacteriological study of diphtheria, based on two hundred and twenty autopsies. By Drs. W. T. COUNCILMAN, F. B. MALLORY, and R. M. PEARCE. (This investigation, which has taken much of the time of the department in the last two years, has finally been brought to completion and will be published as a monograph. The sum of one thousand dollars has been contributed by Dr. H. F. SEARS to defray the cost of publication.)

The lobule of the lung and its relation to the lymphatics. By Professor W. T. COUNCILMAN. *Journal of the Boston Society of Medical Sciences*, March, 1900.

Proliferation and phagocytosis. By Professor F. B. MALLORY. *Transactions of the Association of American Physicians*, 1900.

A contribution to staining methods. By Professor F. B. MALLORY. To appear in *Journal of Experimental Medicine*, 1900.

Notes on cases of actinomycosis with demonstration of the morphology of the actinomyces. By Dr. J. H. WRIGHT. *Transactions of the Association of American Physicians*, 1900.

A case of multiple myeloma. By Dr. J. H. WRIGHT. *Contributions to the Science of Medicine* by the pupils of William H. Welch.

The malarial parasites with micro-photographs. By Dr. J. H. WRIGHT. *Journal of the Boston Society of Medical Sciences*, 1899.

Examples of the application of color screens to photomicrography. By Dr. J. H. WRIGHT. *Journal of the Boston Society of Medical Sciences*, 1899.

The histology of acute lobar pneumonia. By JOSEPH H. PRATT. *Contributions to the Science of Medicine* by the pupils of William H. Welch.

A case of filariasis in which the adult worms were found. By JOSEPH H. PRATT. *Transactions of the Association of American Physicians*, 1900.

On the relation of age, physique, and preliminary training to class rank in Pathology. By Dr. G. B. MAGRATH. *Journal of the Boston Society of Medical Sciences*, 1900.

Diffuse degeneration of the spinal cord. By Dr. E. W. TAYLOR. *Journal of the Boston Society of Medical Sciences*, 1900.

Gumma of the medulla oblongata. By Dr. E. W. TAYLOR. *Journal of the Boston Society of Medical Sciences*, 1900.

On the cultivation of typhoid bacilli from rose spots. By Dr. MARK W. RICHARDSON. *Journal of the Boston Society of Medical Sciences*, 1900.

The pathology of Azoturia. By WALTER R. BRINCKERHOFF. *Journal of the Boston Society of Medical Sciences*, 1900. (The author is a third-year student and holds one of the Bullard Fellowships. His chief work, as holder of the Fellowship, has been on leucocytosis in the rabbit and is not yet completed.)

Comparative Pathology. — During the past year, in addition to the fourth-year elective, a voluntary course of six lectures on pathogenic protozoa, with laboratory work, was given to the second-year students as a part of the general course in Pathology. Professor Smith hopes to expand this course so as to include the higher animal parasites of importance to clinical medicine, and to give it regularly.

In order to improve the meagre equipment of the laboratory, Dr. Frederick C. Shattuck and Mr. George F. Fabyan contributed each two hundred and fifty dollars during the past summer. This sum will be devoted chiefly to increasing the facilities for instruction.

Four advanced students made use of the laboratory in the Bussey Institution during the year. A variety of subjects have been under investigation, but owing to lack of assistance in the routine work of the laboratory and in teaching, the work has not yet been completed.

The following papers were published during the year : —

Variation among pathogenic bacteria. By Professor SMITH. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 95.

Comparative pathology: its relation to biology and medicine. By Professor SMITH. *Pathol. Soc. of Philadelphia*, and *Philadelphia Medical Journal*.

Adaptation of pathogenic bacteria to different species of animals. By Professor SMITH. *Philadelphia Medical Journal*, and *Trans. Congr. Physicians and Surgeons*, 1900.

A comparative study of the so-called polychromatophilous degeneration of red blood corpuscles. By Mr. E. L. WALKER. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 13.

A new method of distinguishing human from other mammalian blood. By Mr. E. L. WALKER. *Journal of the Boston Society of Medical Sciences*, Vol. IV, p. 251.

It would materially aid the growth and usefulness of this department if a small sum of money were available each year for the collection, preservation, mounting and photographing of material illustrating fundamental pathological processes from animal life. A small permanent fund for research and the proper publication of results is also greatly needed, in order that investigations which can be undertaken may be carefully planned in advance and successfully conducted.

Surgery. — The work in the second year has, under the new plan, been satisfactory. A laboratory course on Surgical Pathology, under the charge of Dr. Nichols, has been supplemented by clinical demonstrations by Assistant Professor Burrell. The course unites the clinic with the laboratory, and makes obvious to the student that knowledge obtained in the laboratory is abstract unless applied to the living patient, and that the knowledge obtained in the clinic is empirical unless the laboratory furnishes an explanation of the principles of Surgery.

In the third year the systematic course of lectures at the School has notably been illustrated, as before, by clinical exercises at the two hospitals, but has been supplemented from time to time by demonstrations of specimens in the Museum by all the instructors of the department. The student is thus enabled to examine the specimens carefully and to receive instruction upon them without diverting his attention from the lecture. At the close of the course a series of recitations have been held on subjects so arranged as to cover the ground gone over during the year. This is intended as a review and to render unnecessary the usual "cramming" process generally thought necessary as preparation for the examination.

The cancer commission has been at work during the year, and the first annual report was made to the surgical department in October, 1900, the report appearing in the records of the *Boston Society of Medical Sciences*.

Hygiene. — In addition to completing the manuscript of a textbook in Hygiene, Professor Harrington has finished a study of the action of drinking water on different metals and alloys. A summary

of the results was published in the *Journal of the Boston Society of Medical Sciences*.

He has also conducted an experimental study of methods for preventing the plumbo-solvent action of drinking water from different sources and containing different amounts and kinds of mineral constituents. The results obtained in this work have not yet been published.

Museum.—The work has been carried on as in years past, and since the completion of the catalogue and index, additions have been placed at once in the cases with but little delay. Every year the specimens are used more and more for purposes of teaching and illustration, and it has always been the policy to allow the freest possible use of them. The great need is more space, and even with the present collection, double the shelf room is needed to properly display it.

The collection of lantern slides has been greatly increased during the past year, and the system of separate collections in one place, readily accessible to anyone by good indexing, has worked admirably.

In connection with the lectures on Surgery, there were demonstrations of specimens held in the Museum once a month during the latter part of the year.

Scholarships.—In April, 1900, the "Cotting Gift" was established, the amount to be awarded annually being one hundred and twenty-five dollars, from the income of a fund received from the late Dr. Benjamin E. Cotting. It is to be awarded "to such medical student or students as the Medical Faculty may select, having regard to the pecuniary needs, intellectual capacity, faithfulness and earnest endeavor, rather than highest scholarship merely."

Two Fellowships in Surgical Pathology were established from the income of the Austin Fund.

The Scholarships and Fellowships were awarded as follows:—

Barringer Scholarship, No. 1,	J. H. Shannon, A.B.,	3d Class.
Isaac Sweetser Scholarship,	H. W. Goodall, A.B.,	2d "
Claudius M. Jones "	R. Collins, A.B.,	4th "
Hilton "	J. M. Connolly, A.M.,	4th "
Barringer " No. 2,	S. V. R. Hooker, A.B.,	2d "
Faculty "	H. L. Sanford, A.B.,	4th "
" "	A. S. Murphy,	2d "
" "	F. T. Lord, A.B.,	4th "
" "	W. J. McCausland,	4th "
Eveleth "	F. T. Lewis, A.B.,	3d "
" "	E. L. Hunt,	2d "
" "	H. B. Jackson, A.B.,	3d "

Alfred Hosmer Linder Scholarship,	F. W. Sleeper, A.M.,	3d Class.
Edward Wigglesworth “	R. C. Thomas, A.B.,	2d “
Charles B. Porter, “	E. W. Small,	2d “
John Thomson Taylor “	B. W. Pond, A.B.,	3d “
Orlando W. Doe “	E. L. Creesy, A.B.,	4th “
Charles Pratt Strong “	H. G. Wyer, A.B.,	4th “
David Williams Cheever “	C. S. Oakman,	1st “
Lewis and Harriet Hayden “	T. H. Thomas, A.B.,	1st “

The George Cheyne Shattuck Fellowship was awarded Dr. E. A. Codman for investigation, by the X-ray method, of the formation of epiphyses of children and the time of their union.

The John Ware Fellowship was awarded Mr. Walter R. Brinckerhoff, S.B., for a research upon experimental leucocytosis in the rabbit.

The Charles Eliot Ware Fellowship was awarded Dr. M. P. O. Vejux-Tyrode for the study of the circulation in the excised kidney.

No essay was submitted for the William H. Thorndike Prize.

The statistics of the School will be found in the following tables :—

COURSES OF INSTRUCTION, 1899–1900.

FIRST YEAR.

Anatomy. — Professor T. DWIGHT, Asst. Professor DEXTER, Demonstrator BROOKS, Instructor TENNEY, Assistant LOTHROP, Assistant LORING, Assistant YOUNG, Assistant WHITESIDE, Assistant MOSHER, Assistant WILLIAMS, Assistant DAVIS, Assistant ALLEN, Assistant BUTLER.

125 students examined.

Physiology. — Professor H. P. BOWDITCH, Asst. Professor W. T. PORTER, Assistant CLEGHORN, Assistant MUHLBERG, Assistant FRANZ, Assistant DEARBORN.

151 students examined.

Histology and Embryology. — Professor MINOT, Demonstrator SCHAPER, Assistant AMES, Assistant STUBBS, Assistant WOODS, Assistant DONOGHUE, Assistant WEIS, Assistant LARRABEE, Assistant GILBERT.

160 students examined.

Physiological Chemistry. — Associate Professor HILLS, Assistant JOSLIN, Assistant WHITE.

147 students examined.

SECOND YEAR.

Bacteriology. — Professor ERNST, Assistant STONE, Assistant COOLIDGE, Assistant DENNEY, Assistant PAGE, Assistant PERRY.

Advanced Anatomy. — Professor T. DWIGHT, Asst. Professor DEXTER.

142 students examined.

Pathology and Pathological Anatomy. — Professor COUNCILMAN, Asst. Professor MALLORY, Instructor TAYLOR, Instructor WRIGHT, Instructor PEARCE, Assistant NICHOLS, Assistant RICHARDSON, Assistant MAGRATH.

153 students examined.

- Clinical Chemistry. — Professor WOOD, Assistant OGDEN, Assistant HEWES.
148 students examined.
- Therapeutics. — Instructor PFAFF, Assistant JORDAN, Assistant BALCH.
171 students examined.
- Theory and Practice. — Instructor CUTLER.
- Clinical Medicine. — Instructor WITHINGTON, Instructor SEARS, Instructor VICKERY, Assistant MORSE, Assistant BARTOL, Assistant PRESCOTT, Assistant J. M. JACKSON.
- Surgery. — Asst. Professor BURRELL, Instructor C. A. PORTER, Instructor MUNRO, Demonstrator NICHOLS.

THIRD YEAR.

- Theory and Practice of Medicine. — Professor FITZ. 125 students examined.
- Obstetrics. — Professor W. L. RICHARDSON, Asst. Professor C. M. GREEN, Instructor REYNOLDS, Assistant HIGGINS, Assistant NEWELL.
128 students examined.
- Clinical Obstetrics. — Professor W. L. RICHARDSON, Asst. Professor C. M. GREEN, Instructor REYNOLDS, Assistant HIGGINS, Assistant NEWELL.
- Dermatology. — Professor WHITE. 127 students examined.
- Diseases of the Nervous System. — Professor PUTNAM. 126 students examined.
- Diseases of Children. — Professor ROTCH, Instructor BUCKINGHAM, Assistant WENTWORTH, Assistant CRAIGIN, Instructor MCCOLLOM.
139 students examined.
- Mental Diseases. — Instructor COWLES. 123 students examined.
- Gynaecology. — Asst. Professor DAVENPORT, Instructor HAVEN, Assistant REYNOLDS, Assistant STORER. 120 students examined.
- Surgery and Clinical Surgery. — Professor WARREN, Professor C. B. PORTER, Asst. Professor BURRELL, Asst. Professor M. H. RICHARDSON, Instructor WATSON, Instructor BEACH, Instructor GAY, Instructor MONKS, Assistant SCUDDER, Assistant THORNDIKE, Assistant CONANT, Instructor MUNRO, Assistant MUMFORD, Assistant DWIGHT, Assistant BLAKE, Assistant LUND.
121 students examined.
- Clinical Medicine. — Professor SHATTUCK, Instructor WITHINGTON, Instructor V. Y. BOWDITCH, Instructor JACKSON, Instructor SEARS, Assistant BARTOL, Assistant PRESCOTT, Assistant J. M. JACKSON.

FOURTH YEAR.

- Clinical Surgery. — Professor C. B. PORTER, Asst. Professor BURRELL, Asst. Professor M. H. RICHARDSON, Instructor MONKS, Instructor MUNRO, Assistant THORNDIKE, Assistant E. W. DWIGHT, Assistant J. B. BLAKE, Assistant LUND, Instructor C. A. PORTER. 119 students examined.
- Clinical Medicine. — Professor SHATTUCK, Instructor MCCOLLOM, Assistant R. C. CABOT. 124 students examined.
- Ophthalmology. — Professor WADSWORTH, Assistant STANDISH, Assistant CHENEY, Assistant JACK. 126 students examined.

Otology.—Professor BLAKE, Professor J. O. GREEN, Assistant HAMMOND.	116 students examined.
Laryngology.—Instructor DEBLOIS, Instructor FARLOW, Instructor COOLIDGE.	119 students examined.
Legal Medicine.—Professor DRAPER, Instructor E. W. DWIGHT.	119 students examined.
Syphilis.—Instructor POST.	122 students examined.
Orthopedics.—Asst. Professor BRADFORD.	80 students examined.
Hygiene.—Asst. Professor HARRINGTON.	131 students examined.
Mental Diseases.—Instructor COWLER, Instructor LANE.	
Ovarian Tumors.—Instructor HOMANS.	
Genito-Urinary Surgery.—Instructor WATSON, Assistant THORNDIKE.	
Municipal Sanitation.—Lecturer DURGIN.	

Fourth Year Electives.

Ophthalmology.—Professor WADSWORTH.	3 students examined.
Otology.—Professor BLAKE, Professor J. O. GREEN, Assistant HAMMOND, Assistant CROCKETT.	4 students examined.
Dermatology.—Instructor BOWEN, Assistant C. J. WHITE.	57 students examined.
Diseases of the Nervous System.—Professor PUTNAM, Instructor WALTON, Instructor KNAPP.	6 students examined.
Gynaecology.—Asst. Professor C. M. GREEN.	11 students examined.
Operative Obstetrics.—Asst. Professor C. M. GREEN, Instructor REYNOLDS, Assistant HIGGINS, Assistant NEWELL.	59 students examined.
Operative Surgery.—Professor C. B. PORTER, Assistant MIXTER, Instructor MONKS, Assistant CONANT, Assistant SCUDDER.	88 students examined.
Bacteriology.—Professor ERNST, Assistant COOLIDGE, Assistant DENNY, Assistant PERRY, Assistant PAGE.	6 students examined.
Orthopedics.—Asst. Professor BRADFORD.	43 students examined.
Clinical Microscopy.—Curator WHITNEY.	5 students examined.
Clinical Chemistry.—Professor WOOD, Assistant HEWES, Assistant OGDEN.	4 students examined.
Anatomy.—Demonstrator BROOKS.	14 students examined.
Embryology.—Professor MINOT, Demonstrator SCHAPER.	1 student examined.
Histology of the Nervous System.—Professor MINOT.	2 students examined.
Physiological Chemistry.—Instructor PFAPP.	2 students examined.
Comparative Etiology of Infectious Diseases.—Professor SMITH.	4 students examined.
Physiology.—Professor BOWDITCH.	1 student examined.

TABLE I.—GENERAL STATISTICS OF THE SCHOOL.

EXAMINATIONS FOR ADMISSION.

			Physics.	Latin.	Eng-lish.	Elec-tive 1.	Elec-tive 2.	Gen. Chem.	Qual. Analysis.
1899.	{ June	{ Offered	56	72	63	70	66	48	35
		{ Conditioned	9	8	16	23	21	12	4
	{ Sept.	{ Offered	35	28	43	41	48	84	71
		{ Conditioned	4	12	19	12	10	19	8

New matriculants . . . 149 { Graduates in Medicine 7
 Undergraduates 142

Of these 40.26 % presented a degree in Letters, Science, or Medicine.

The whole number of students in attendance :—

In courses for graduates	46
Fourth Class	105
Third Class	116
Second Class	153
First Class	155
Total	575

4 yrs. Course.

Applicants for Degree	153
Rejected	18
Graduated	135

Of the 135 students who received the degree of Doctor of Medicine, 51 received the degree *cum laude*.

	SUMMER COURSES.					GRADUATE COURSES.				
	1896.	1897.	1898.	1899.	1900.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
Courses taken	116	130	118	142	167	108	175	114	134	63
Students	100	110	107	116	149	56	75	60	50	46
Receipts	\$2972	\$3129	\$3360	\$3895	\$4605	\$2520	\$3810	\$3780	\$2861.25	\$1465

TABLE II.—FINAL EXAMINATIONS.

			FIRST CLASS.						SECOND CLASS.									
			Histology.		Bacteriology.		Physiology.		Chemistry.		Anatomy.		Path. Anatomy.		Adv. Anatomy.		Therapeutics.	
			%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%	\$
1896	Passed	142		145		136	122	122	123	131	110	112		112		38		
	Rejected	15	9	9	6	16	39	39	24	15	38	68		26				
	Total	157		154		163	161	161	145	154	148	180		148				
1897	Passed	136		111		136	113	126	123	104	110	108		110		108		
	Rejected	11	7	31	22	15	47	39	22	17	12	36	64	31	22	64	37	
	Total	147		142		160	160	162	140	140	141	172		141				
1898	Passed	129		117		119	121	120	16	12	99	111		99		27		
	Rejected	13	9	27	18	24	40	25	24	16	35	26	41	35	26	41	27	
	Total	142		144		143	161	144	136	157	134	162		134				
1899	Passed	124		118		117	117	115	113	109	105	83		105		83		
	Rejected	22	15	27	18	28	43	39	25	7	6	28	51	18	51	38		
	Total	146		145		145	160	154	120	137	123	184		123				
1900	Passed	146		129		129	118	116	133	148	110	100		110		100		
	Rejected	14	9	18	12	12	35	9	16	10	3	32	22	32	22	32	36	
	Total	160		147		147	125	151	148	153	142	171		142				

THE VETERINARY SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — As Dean of the School of Veterinary Medicine I have the honor of presenting the following report for the year 1899–1900:—

The year opened with a total attendance of twenty-five students divided among the classes as follows: ten in the third, seven in the second, six in the first, and two non-matriculants. The third class continued to retain its full number throughout the year; the second class lost one; and the first, three students at various periods throughout the year and for various reasons.

There were twelve candidates for the degree, — ten from the Class of 1900, one each from the classes of 1899 and 1897. Of these, seven were successful and were graduated in June. The degree *cum laude*, the conditions for obtaining which were described in this report for last year, was given to Messrs. Pierce and Tobin, both members of the Class of 1900.

One of the two Faculty Scholarships of \$150 each was awarded to James William Tobin, a member of the third class.

Under the plan adopted by the Faculty for the distribution of the six new \$50 Scholarships instituted and described in this report last year, two became available for members of the first class of this year. One of these was given to Sumner Cain Babson, the other was not awarded as, in the opinion of the Administrative Board, there was no suitable competition. It may be of interest to state that the actual difficulty arose first, from a prolonged but fruitless attempt to ascertain the relative standing of two preparatory schools; and in the second place, the record of the candidates, while in those schools. It was found impossible to get satisfactory replies to either of these questions.

There have been several occasions in the past in which the kindly, ready, and indispensable aid given us by the Medical School has been acknowledged in this report. From our organization to the beginning of this year that School has received our students into several of its classes upon an equal footing with their own, and has, often at great inconvenience to itself because of its increasing number of students, continued to furnish us, for a nominal fee, with the necessary laboratory accommodation.

TABLE II.—FINAL EXAMINATIONS, CONTINUED.

[illegible]

An examination of the statistics shows a falling off in the attendance on Graduate Courses, but a very marked increase in the receipts and number of students in the Summer Courses. The decrease in the former was the natural result of the discontinuance of a fee of two hundred dollars which permitted attendance throughout the academic year upon any or all graduate courses, and the substitution of a single fee for each separate course taken.

The present school building affords accommodations which are totally inadequate to the demands of the lecturers and the regular teachers in the laboratories. Additional space must be provided if even the work of the School is to be carried on. At present scientific investigations and research work by the teaching staff are almost at a stand-still; all the available room being needed for the sole purpose of teaching students.

WILLIAM L. RICHARDSON, *Dear.*

THE DENTAL SCHOOL.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — As Dean of the Dental School, I have the honor to present my report for the academic year 1899–1900: —

The instruction given to Dental students during their first year has, from the founding of the Dental School, been given them in the Medical Department by teachers of the Medical School, and in most instances, in connection with the instruction given to Medical students. For many years this service was gratuitous on the part of the Medical School, and without it the Dental School could never have grown to its present condition. In spite, however, of this generosity, there has arisen from time to time, grave problems concerning the courses proper for Dental students, the solution of which was made difficult by the existence of two Faculties, namely, the Medical Faculty and the Dental Faculty. Happily, however, this obstacle to the future growth of the School was removed in the early part of the year by act of the Corporation instituting the Faculty of Medicine, and giving into its immediate charge the Medical School, the Dental School, and the Veterinary School, and establishing for the Dental School an Administrative Board which concerns itself with the business of the school, and which for its acts is responsible to the Faculty of Medicine. The members of the Board for the year were Professors Hills, Fillebrown, Brackett, Briggs, Stanton, Drs. Clapp, Cooke, Boardman, and the Dean of the School. Dr. Potter was granted a year's leave of absence and went to Europe. He spent a large part of his time in the interest of the School, investigating the Dental Departments of the Universities of Berlin and Vienna with reference to the preliminary education required of students before entering those institutions, and also with reference to the prescribed course of study, comparing the same with our own requirements and methods. Dr. Potter has given to the School library, Zuckerkendle, *Typographical Anatomy* with five plates, and has also obtained and presented to the School for the use of the museum and for the teaching department, rare anatomical specimens showing the oral cavity and all related regions. During Dr. Potter's absence, Dr. Bradley gave a most efficient course of lectures in Operative Dentistry to the second class. Dr. F. H. Harding was appointed Instructor in Operative Dentistry to take the place of Dr. Bradley and has been re-appointed to take the place of

Dr. Boardman, who, while retiring from the Operative Department, will continue to serve the School as Curator of the Museum and Librarian. During the year Dr. Boardman has completed a second edition of the Quinquennial Catalogue of the Dental School which contains much valuable information. He has also given much time to the library which now contains 493 volumes pertaining to Dentistry and allied subjects, 206 volumes having been added during the year.

Professor Stanton has felt for some time that his course in Oral Anatomy, Physiology, and Bacteriology, was largely covered in the first year by the courses of Professors Dwight, Bowditch, and Minot. Upon investigation this was found to be true, and although it was thought that a special course in Oral Anatomy might, with profit to the student, be given in the second year, Professor Stanton did not feel equal to the effort of preparing for this work, and, moreover, evinced a desire to retire, at least for the present, from further service in the School. Professor Stanton was appointed Instructor in Oral Pathology and Anatomy in 1885, Instructor in Oral Anatomy and Physiology in 1890, Instructor in Bacteriology in 1893, and Assistant Professor of Oral Anatomy, Physiology, and Bacteriology in 1895. He has, therefore, given to the School fifteen years of intelligent and most faithful service and his retirement is to be deeply regretted.

Dr. Nathan Prindle Wyllie, Instructor in Materia Medica and Anaesthesia, died on January 26th after a lingering and painful illness which he bore with patience and fortitude. Dr. Wyllie was appointed Assistant Demonstrator of Operative Dentistry in 1894, Instructor in Extracting and Anaesthesia in 1898, Instructor in Materia Medica and Anaesthesia in 1899. He was a popular teacher, interested in his work and in the success of the School. Just before his death he gave to the School a set of the Century Dictionary and Encyclopedia. It was thought best to divide the work done by the late Dr. Wyllie by appointing two instructors in Extracting and Anaesthesia and one Assistant in Materia Medica. Ernest Jewett Hart, D.M.D., and William Daniel Squarebrigs, D.M.D., were appointed to the positions of Instructors, and Charles William Rodgers, D.M.D., to that of Assistant in Materia Medica. Other new appointments are as follows:—

LAWRENCE WILLS BAKER, D.M.D., *Assistant in Orthodontia.*

GEORGE CHANDLER BALDWIN, D.M.D., *Assistant in Oral Surgery.*

HARRY LINWOOD GRANT, D.M.D., *Instructor in Mechanical Dentistry.*

ERNEST HOWARD CHUTE, D.M.D., *Instructor in Mechanical Dentistry.*

WILFRED HARLOW STARRATT, D.M.D., *Instructor in Operative Dentistry.*

The degree *cum laude* was conferred for the first time in June last on four candidates who passed all of the examinations of the three years with distinguished excellence receiving an average mark of $86\frac{5}{10}$ per cent.

A lantern and its accessories was purchased during the year for use in illustrating many of the lectures.

The following tables present the statistics of the School: One hundred and twenty-two students were in attendance throughout the year. One hundred and thirty-two students matriculated and ten of them withdrew. In June forty-four students applied for the degree. Eleven failed to receive it, making the total number of the graduating class thirty-three.

The courses of instruction during the year have been as follows:—

Anatomy.—Professor T. DWIGHT, Assistant Professor DEXTER, Demonstrator BROOKS, Instructor TENNEY, Assistants LOTHROP, LORING, YOUNG, WHITE-SIDE, DAVIS, WILLIAMS, ALLEN, MOSHER, BUTLER.

Physiology.—Professor H. P. BOWDITCH, Assistant Professor W. T. PORTER, Assistants CLEGHORN, DEARBORN, FRANZ, MÜHLBERG.

Histology and Embryology.—Professor MINOT, Demonstrator SCHAPER, Assistants AMES, STUBBS, DONOHUE, GILBERT, LARRABEE, WEISS.

Physiological Chemistry.—Associate Professor HILLS, Assistants OGDEN, JOSLIN, WHITE.

Chemistry.—Associate Professor HILLS, Assistant SMITH.

Bacteriology.—Professor ERNST, Assistants COOLIDGE, PAGE, DENNY, PERRY.

Crown and Bridge Work and Metallurgy.—Instructor COOKE. 32 lectures.

Neurology.—Instructor E. W. TAYLOR. 4 lectures.

Materia Medica and Therapeutics.—Professor BRIGGS. 32 lectures.

Oral Anatomy and Physiology.—Professor STANTON. 32 lectures.

Dental Pathology.—Professor BRACKETT. 32 lectures.

Surgical Pathology and Surgery.—Professor WARREN, Instructor MONKS. 14 lectures.

Mechanical Dentistry and Orthodontia.—Professor SMITH. 32 lectures.

Orthodontia.—Professor SMITH. 32 clinics.

Mechanical Dentistry.—Clinical Instructor J. D. DICKINSON. 8 clinical lectures.

Mechanical Dentistry.—Clinical Lecturer STODDARD. 16 lectures and demonstrations.

Mechanical Dentistry, laboratory, Juniors.—Assistant Demonstrator CHASE, Instructors FORREST, MEADER. 544 hours.

Mechanical Dentistry, laboratory, Seniors.—Demonstrator MORIARTY, Assistant Demonstrator HAYDEN, Instructors CROSS, ELDRÉD, BURNHAM, HALEY, BIXBY. 496 hours.

Practical Dentistry.—Instructor UPHAM. 14 lectures.

Operative Dentistry and Dental Jurisprudence.—Clinical Lecturer CLAPP. 12 lectures.

Operative Dentistry.—Professor FILLEBROWN. 32 lectures.

Operative Dentistry.—Lecturer BRADLEY. 32 lectures.

Operative Dentistry.—Clinical Instructor **WERNER**. 13 lectures and demonstrations

Operative Dentistry, infirmary, Juniors.—Assistant Demonstrator **FARRINGTON**, Instructors **WHITE**, **D. W. DICKINSON**. 448 hours.

Operative Dentistry, infirmary, Seniors.—Demonstrator **McMEEKIN**, Instructors **PAUL**, **EDDY**, **BLAISDELL**, **PERKINS**, **TAFT**, **GRAY**, **HARDING**, **HOLMES**, **BOARDMAN**, **F. T. TAYLOR**. 624 hours.

Extracting and Anaesthesia (Demonstrations).—Instructors **HART**, **SQUAREBRIGS**. 160 afternoons.

The work done in the School is shown in the following table:—

OPERATIVE DEPARTMENT.

Surgical clinics by Professor **FILLEBROWN**.

	Number of cases	
Necrosis	8	
Abscess	30	
Antrum disease	4	
Cleft palate	4	
Epulis	1	
Hare lip	8	
Tumor	8	
Anchylolysis of jaw	1	
Fracture of inferior maxillary	1	
Exsection of inferior dental nerve	1	

INFIRMARY.

Number of patients treated for diseases of the teeth	6,136
Total number of operations performed	18,482

MECHANICAL DEPARTMENT.

SERVICE TO PATIENTS.

Sets of artificial teeth	323
Sets of artificial teeth repaired	71
Splints for fractured jaws	46
Splints for cleft palate operations	7
“ “ “ “ repaired	2
Obturator and appliances for cleft palates	14
Plugs for antrum	4
Artificial nose	1

Under the direction of Professor **SMITH**:—

Cases of irregularity treated and corrected	104
Orthodontia appliances	165
Articulated models of regulating cases	150

Under the direction of Drs. COOKE and STODDARD:—

Crowns and caps	67
Pieces of bridge work	27
Porcelain tips	4
Crowns repaired	11
Bridges repaired	7

MECHANICAL LABORATORY—PRACTICE WORK.

Sets of artificial teeth	321
“ carved teeth	32
Specimen crowns and caps	392
“ bridges	136
Porcelain inlays	38
Gold tip	1
Orthodontia appliances	238
Vulcanite plates repaired	43
Splints for fractured jaws	3
Obturator for perforated palates	3

EUGENE H. SMITH, *Dean.*

THE VETERINARY SCHOOL.

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Under the plan adopted by the Faculty for the distribution of the six new \$50 Scholarships instituted and described in this report last year, two became available for members of the first class of this year. One of these was given to Sumner Cain Babson, the other was not awarded as, in the opinion of the Administrative Board, there was no suitable competition. It may be of interest to state that the actual difficulty arose first, from a prolonged but fruitless attempt to ascertain the relative standing of two preparatory schools; and in the second place, the record of the candidates, while in those schools. It was found impossible to get satisfactory replies to either of these questions.

There have been several occasions in the past in which the kindly, ready, and indispensable aid given us by the Medical School has been acknowledged in this report. From our organization to the beginning of this year that School has received our students into several of its classes upon an equal footing with their own, and has, often at great inconvenience to itself because of its increasing number of students, continued to furnish us, for a nominal fee, with the necessary laboratory accommodation.

With the adoption by the Faculty of certain recommendations, made as described in this report for last year, instruction in Bacteriology, Pathology, Chemistry, Physiology, and Histology was thenceforward to be given to veterinary students by special instructors, under the directions of the Professors in each of the divisions named; and that this change might be made possible, the Medical School voluntarily surrendered a large part of the sum theretofore annually paid them by us; and at the same time, amid their own increased embarrassments for lack of adequate accommodations, continued to furnish us with laboratory room and equipment.

It is only through this consideration on the part of the Medical School, that it has been possible for us to institute the new courses in Comparative Physiology, Histology, Bacteriology, and Clinical Chemistry, which were voted by the Faculty.

Those who were selected to give the new form of instruction undertook the work with great enthusiasm; and the courses have all been proved to be of great usefulness and interest to the students, some of whom have already shown their appreciation of the improvements effected by attaining good standing in their class-work.

It was arranged by the Faculty that new courses in Zoölogy, Foods and Feeding, Animal Management, and Stable Construction and Sanitation should be added to the curriculum; while it was further made possible to extend and divide several of the courses which had been given before.

On May 1st, Dr. Henry F. Leonard sent in his resignation of the Instructorship in Anatomy, to take effect at the end of the year. This position was filled by the appointment of Charles W. Prentiss, A.M., Ph.D. (Harv.). Dr. Leonard, a graduate in human medicine from one of the New York schools, had established a practice in Boston. After a time he became so much interested in comparative medical science that he undertook a course of study in this School, and graduated in our class of 1891. During the following winter the School unexpectedly found itself without an instructor in Anatomy, and although the duties of that important post had to be taken up at a week's notice without time for special preparation, and the problem was to finish a course which had been begun by another, Dr. Leonard cheerfully undertook the work, and has continued in the position until the end of the year 1899-1900, in spite of the fact that the time necessarily devoted to his work in the School has seriously interfered with the demands of his growing practice.

The following additional new appointments were made :—

A. G. G. RICHARDSON, M.D.V., *Instructor in Meat Inspection.*

CHARLES W. DELANO, M.D.V., *Assistant in Clinical Medicine.*

H. CARLTON SMITH, PH.G., *Instructor in Materia Medica.*

Dr. Richardson, a graduate of the Veterinary Department of the University of Pennsylvania, has charge of the Meat Inspection work which is being conducted in Boston by the Department of Agriculture at Washington; so that he can not only give practical instruction, but also exhibit to the students the actual methods pursued by the national government in this work. As many appointments of Meat Inspectors are made annually by the Agricultural Department from among newly graduated veterinarians, and as the work of inspection grows from year to year, the subject is becoming one of importance in veterinary schools.

Dr. Delano, a graduate of this School and of the Amherst Agricultural College, is well equipped for the duties to which he has been appointed.

Mr. Smith, is not only an experienced teacher, but has indirectly been in contact with the work of our students for some years through his connection with the Chemical Department of the Medical School; and, being a graduate in Pharmacy with experience in some of the diseases of animals and in the methods of treatment through a considerable service as chemist to the State Board of Cattle Commissioners, he has a special knowledge which renders his present appointment a particularly appropriate one.

A considerable change has been made in our method of teaching anatomy, under which Comparative Veterinary Anatomy receives a much fuller treatment than heretofore. Formerly our instruction in anatomy was, as is usual, given in a Junior and a Senior course extending over two years; and the chief part of it was on the horse. The first year was devoted to a study of bones, joints, muscles, and the gross anatomy of the organs of circulation, respiration, and digestion. In the second year all remaining parts were studied. Comparative Veterinary Anatomy was taught by noticing the more important differences between the various domesticated animals and the horse, *i. e.* while the bones were being studied the important differences were referred to, and so on throughout the course. Under our proposed method the student's work for the first year will be entirely confined to a study of the anatomy of the horse, and will cover that subject in 384 total hours of instruction, lectures, recitations, demonstrations, and laboratory exercises. In the second year,

the anatomy of one animal having been firmly fixed in his mind, the student devotes his time, 384 hours again, to Comparative Veterinary Anatomy, which includes a knowledge of six additional animals, illustrating four distinct types. This instruction is given by demonstrations, recitations, and practical exercises.

Some important changes have taken place during the year affecting our University relations and our methods of government which, if carried out to their logical end, will not only vastly improve the resources and scientific standing of this School, but must, in their ultimate effect, raise the standard of the entire veterinary profession of America.

As pointed out in this report for last year the Veterinary Faculty, on March 31st, 1899, voted, "That whenever an adequate endowment is secured it is expedient to establish a Faculty of Comparative Medicine in whose charge the degree of Doctor of Veterinary Medicine shall be placed, with some degree or degrees of a higher nature, and among whose members shall be included Professors of Comparative Anatomy, Comparative Physiology, and Comparative Pathology," also, on the same date, that a copy of this vote should be sent to the President and Fellows.

After the creation of the consolidated Faculty of Medicine in December, 1899, a Committee was appointed to inquire into and report upon the character of the present admission examinations at the Veterinary School. As a result of this inquiry, it was determined that, beginning with the examination for admission to be held in June and September 1901, the requirements should be made to equal those now in force at the Dental School.

As time goes on and experience widens, there comes an unavoidable conviction that the period of residence will have to be extended, before very long, to cover four years of study in institutions desiring to give an adequate veterinary education.

THE FREE CLINIC.

The humane objects of this Clinic have been so often described in this report that a rehearsal of them at this time seems to be unnecessary.

The Committee appointed by the Overseers to visit the School have continued to pay the rent of the building, at 52 Piedmont Street, in which the Clinic is carried on. The enterprise is further supported by annual gifts and by small sums charged to those who

Month.	Genito-Urinary.			Locomotor.			Respiratory.			Circulatory.			Nervous.			Digestive.			Special Sense.			Operations.			Skin Diseases.			New Growths.			Accidents, Injuries.			Glanders.	Other Animals.	Total Number Cases Month.	
	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.	D.	C.	H.						
August.	0	0	0	20	0	0	2	1	3	0	0	0	0	15	0	17	14	11	0	8	1	34	38	11	2	14	3	6	12	0	12	25	20	0	. . . .	269
September.	0	9	2	14	1	1	2	3	3	1	0	0	10	0	9	19	3	15	3	15	3	19	54	16	0	13	0	4	10	3	8	16	2	0	1	Rat 2.	243
October.	4	5	10	11	0	1	1	2	2	0	2	1	0	0	17	7	7	0	2	6	91	40	37	1	12	3	2	4	2	60	30	7	1	1	Pigeon.	369	
November.	0	8	10	18	0	0	3	3	0	1	0	0	3	0	15	13	7	0	4	3	75	40	17	1	10	1	5	11	0	44	26	4	2	. . . .	324	
December.	0	9	16	9	0	1	12	4	1	0	1	0	3	2	31	39	4	1	45	0	55	85	25	0	13	4	7	0	0	15	35	4	1	1	Rabbit.	423	
January.	0	0	7	3	0	0	4	6	1	0	0	0	1	0	13	17	2	0	17	1	20	22	9	0	7	1	3	3	0	4	8	2	0	. . . .	151	
February.	1	2	5	4	0	0	3	16	1	3	0	0	4	0	19	3	10	2	44	0	38	58	16	0	4	0	0	1	2	22	18	6	0	1	Rabbit.	283	
March.	1	10	17	5	0	0	0	9	2	0	0	1	0	22	0	11	14	3	0	40	1	18	61	29	2	3	0	0	19	0	11	9	10	0	1	Bulfinch.	298
April.	1	5	11	3	1	0	6	4	1	1	0	1	1	5	0	19	7	3	0	15	0	25	57	14	1	5	0	1	14	0	8	28	3	0	. . . .	240
May.	5	18	6	19	1	0	1	18	2	1	0	1	1	4	0	21	11	7	2	27	2	54	64	12	0	1	0	6	4	0	16	31	8	0	1	Rabbit.	344
June.	3	13	3	5	0	0	2	22	0	0	3	0	4	2	20	20	7	9	15	2	53	48	15	0	7	0	15	7	0	21	21	11	0	1	Rabbit.	329	
July.	1	20	4	9	0	0	4	8	1	4	1	1	2	4	1	17	21	16	4	11	2	30	44	27	0	9	5	1	3	2	12	10	16	1	1	Canary.	293
Totals.	16	99	91	120	3	2	29	104	20	12	6	6	4	75	5	209	185	80	19	243	21	512	611	228	7	98	17	50	88	9	233	257	93	5	9	3566	

H. = Horse. D. = Dog. C. = Cat. 1 Indigestion - recovery. Thoracic Abscess - died. 2 Abscess on head - operation - recovery. 3 Indigestion - recovery. 4 Indigestion - recovery. 5 Sebaceous cyst on head - operation - recovery. 6 Indigestion - recovery. 7 Indigestion - recovery. 8 Fracture of leg - recovery.

are able to pay for the medicines dispensed for the relief of the suffering animals. The amount coming from this last source has been \$244, as against \$247.40 for 1898.

There has been a considerable decrease in the income from annual gifts, as will be seen by the following statement: There was received in 1896-97, \$938; 1897-98, \$868; 1898-99, \$543; and for this year, \$467. It has been possible during these four years to so far reduce the expenditures, which in 1896-97 exceeded the receipts, as to keep them within the income without diminishing the usefulness of the work. But further reduction in the expenditures is not possible.

The number of cases treated in the different years is as follows: In 1896-97, 3372; in 1897-98, 3926; in 1898-99, 3561; and in 1899-1900, 3566.

CHARLES P. LYMAN, *Dean*.

THE VETERINARY HOSPITAL.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR,—As Surgeon-in-Charge of the Hospital of the School of Veterinary Medicine, I have the honor to submit the following report for the year 1899-1900.

Albert J. Sheldon, D.V.S., who was appointed Assistant Surgeon to the Hospital on March 1st, 1899, for the balance of the year 1898-99, was reappointed and has occupied that position during the past year.

The competition for the positions as House Surgeon was considerable and resulted in the appointment of Messrs. Hartman, Mulvehill, and Tobin.

It was decided, at the recommendation of the Committee on Courses of Study, that four series of practical exercises should be added to the instruction heretofore given in the Hospital, as follows :—

Examination for Soundness Dr. Osgood.
 Bandaging and Apparatus " " and Assistant.
 General Stable Management of sick animals . " " "
 Auscultation and Percussion Drs. Lyman and Delano.

The daily clinics by Drs. Osgood, Leonard, Howard, and Sheldon were given at ten o'clock throughout the term.

MONTH.	Locomotory.	Respiratory.	Digestive.	Genito-Urinary.	Operations.	Circulatory.	Nervous.	Special Sense.	Skin Diseases.	New Growths.	Total.
November . .	25	16	13	3	38	..	11	4	23	1	134
December . .	18	11	16	3	31	..	5	1	10	3	98
January . . .	30	15	16	4	56	..	5	4	17	4	151
February . .	21	16	16	6	31	..	11	11	11	2	125
March	21	12	15	2	37	..	8	7	10	3	115
April	17	15	19	3	46	1	2	5	11	7	126
May	28	17	28	5	38	..	5	11	11	4	147
June	25	6	11	7	27	2	6	5	10	2	101
July	28	6	32	2	30	2	4	3	13	3	123
August	15	4	21	0	32	0	4	3	12	2	93
September . .	19	3	25	1	30	1	2	4	18	4	107
October	19	2	28	4	27	2	7	6	22	0	117
Totals	266	123	240	40	423	8	70	64	168	35	1437

The foregoing table shows, in its usual form, the number and general character of the 1,487 cases which have been treated in the Hospital during the year.

In addition to the above enumeration of cases, 694 animals received the necessary attention in the "Out Clinic" which comprises a class of ailing animals that although not well, are still not ill enough to require hospital residence for their proper treatment; they are brought by their owners from time to time, as is necessary, and after receiving attention are immediately returned to their homes. Autopsies were held on all animals dying in the hospital, and material was again furnished to a special class in comparative pathology as well as to the Medical School.

As many as possible of the 423 surgical operations were made in the presence of the class, the students assisting, under immediate supervision, in such details as the application of the various proper methods of restraint, and repair-hobbles, the administration of the anaesthetic, bandages, splints, etc. I am happy to be able to report that the degree of proficiency in these matters reached by many of the young men was of a high grade and worthy of a special commendation.

The study of much of the material coming from the surgical cases, including all of the tumors, has been systematically pursued; their macroscopic and microscopic appearances considered and all carefully and fully described.

The material coming to the school, from this source, is fairly wide in its range and should be not only of importance to Veterinary students but exceedingly useful as offering a valuable basis for further important observations in comparative pathology.

FREDERICK H. OSGOOD,
Surgeon-in-Charge.

THE BUSSEY INSTITUTION.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I respectfully submit the following report on the Bussey Institution for the year 1899–1900.

Twenty-nine students attended the courses of instruction given in the School of Agriculture and Horticulture, and the teachers connected therewith were sustained and greatly encouraged by the constancy and proficiency exhibited by most of these pupils.

The usual courses of instruction were given by Messrs. Hersey, Watson, Morse and Storer in Agriculture, Horticulture, Agricultural Natural History, Agricultural Chemistry and Qualitative Chemical Analysis; and additional courses in advanced Natural History, in Animal Industry, Cattle Feeding, the Rudiments of Landscape Gardening and Quantitative Chemical Analysis were given to students of the second year by Messrs. Morse, Watson, and Storer.

One part or number of the Bulletin of the Bussey Institution (No. IX of Volume II) was printed. It completed the second volume of this publication and contained the Index and Table of Contents of the volume.

Beside the need of elbow-room in the Stone Building, the want of a separate library building on the Plain Field is much felt. Such a building should of course be fire proof and be made strong enough to sustain the enormous weight which shelves full of books bring to bear upon floors. No part of the present School Building fulfils either of these conditions.

Another point in need of attention is the question of police protection for some parts of the farm-land. What with the giving up in recent years of much of the estate to the Arnold Arboretum and the taking of other parts by the City of Boston for a playground, the cutting up of still other parts by the great metropolitan sewer, and the removal from some parts of the farm, for the benefit of the Arnold Arboretum, of fertile soil which formerly covered them, there is not land enough left in the immediate vicinity of the farm house to supply the hay and straw needed for the farm purposes. There are, however, some parcels of land, now used for pasturage, which might be made to bear crops if the land could but be protected from being overrun occasionally by thoughtless boys and loafers.

I believe that arrangements might be made, at no unreasonable cost, which should enable us to put this land to full use and at the same time greatly improve its appearance.

I make no explanatory reference to the condition and requirements of the greenhouses because this matter has been reported on by a committee of the Board of Overseers without consultation with me. It might be regarded as of questionable propriety if I were now to express an opinion upon a subject which has already been passed upon officially by that honorable board.

F. H. STORER, *Dean.*

THE LIBRARY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit my third annual report on the Library, covering the year 1899–1900.

The experience of the past year brings home even more forcibly than ever before the pressing need of a larger and better building for the Library. In the divisions recently classified, it is true, there are still empty shelves and parts of shelves to receive new accessions; the older portions are, however, in many cases seriously crowded, but there remains so little free space that expansion of these portions must be postponed as long as possible. The lack of free space also made difficult the handling of the large gifts received during the year, for these gifts have to be provided with temporary shelf-room while they are being prepared for their permanent places. For the same reason the reclassification of the still unclassified portions of the Library is almost at a standstill. Reclassification necessarily means expansion, because, with new books constantly coming in to be intercalated at every point, a reasonable amount of empty space must be left all along the line so as to avoid constant shifting, or at least so as to confine within narrow limits such shifting as is required.

The present cataloguing staff cannot keep pace with the current receipt of books and do careful and scholarly work, but the staff cannot be enlarged because there is no room where more workers can be seated, and many of those now working for us have to submit to unsuitable conditions of light, heat, and air. An enlargement of the staff being impossible, we have to resort to temporary expedients and short cuts in our work in order to keep track of the books we receive. I have already pointed out in my last report and in an article in the *Graduates' Magazine* for December, 1899, some of the deficiencies of the present building in other respects,—the absence of convenient places for the use of professors or advanced students, of rooms to which small classes might be brought which need to handle library material, a room for the study of maps, a room for the archives of the University and for the collections illustrating its history, a room for the exhibition of interesting books and manu-

scripts, and supplementary reading and seminary rooms for the class-room collections now scattered in different buildings, though administered by the College Library.

In spite of the urgent necessity, I do not and have not urged upon the Corporation that it should erect a new library building or enlarge the present one out of unrestricted funds now in its hands. Apart from the fact that, if such funds exist, their income is doubtless needed for a great variety of other purposes, I should be sorry to see the Corporation compelled to depend on these resources in taking the next great step forward in the development of the Library. The cost of construction of the present building up to the present time has been met almost entirely from such unrestricted funds. Built in 1838 from the Christopher Gore bequest, which had been received in 1829 and which the Corporation had hoped to keep as an income-yielding fund, it was enlarged by the addition of the eastern wing in 1877 at a cost of \$90,000, a sum likewise withdrawn from income-bearing sources, while in 1896 the expense of remodelling the old building (\$52,000) was, with the exception of about \$16,000 which had been subscribed for a new reading-room, and of \$7,500 drawn from the Gore Annuity Fund, again defrayed by the Corporation. In each case the Corporation limited its expenditure to the lowest possible sum that would secure in a fair degree the improvements needed, and, in the administration of the trust funds committed to it, could not do otherwise. Such conditions require that a fairly adequate result shall be reached at the smallest possible expense, and forbid the attempt to secure the best possible result by the judicious use of ample means. The next great improvements in our Library should be carried out under conditions that allow the latter object to be kept in view, and this can only come to pass through private generosity.

I should regret to see any wasteful expenditure on a building for the Harvard Library, but when enlargement comes, I want to see a building as perfectly equipped as possible for convenient use and efficient administration, and also of such architectural dignity as will make it an inspiration and delight to all who use it. Yale, Columbia, Princeton, Cornell, Pennsylvania, Dartmouth, and Bowdoin have all erected within recent years commodious and well planned library buildings, and in every case the building has been the gift of a private person. The opportunity is still open for some one to do the same great service for Harvard.

In the mean time we ought to consider what expedients can be devised to meet our immediate necessities, for they are likely to require relief in the course of the coming year. I pointed out in my

last report that a slight enlargement of the sixth floor of the East stack was possible, giving shelf-room for 3,800 volumes, and that a seventh floor could be constructed over a part of the sixth floor and immediately under the roof. The former plan gives so little relief and gives it in such a form (separated blocks of shelves in the midst of other shelving not yet itself seriously crowded) that it is scarcely worth the expense at present; the latter would give new space for about 15,000 volumes, and that number of less used books could be transferred from other parts of the library and thus make room for reclassification, but the new shelves being under the roof and directly below a glass skylight would be extremely hot and really unfit places for either books or men.

Three other general methods of relief suggest themselves. The most obvious is to transfer to the several department libraries all books relating to the specialties of those departments, to send what law we have to the Law School, theology to the Divinity School, medicine to the Medical School or the Boston Medical Library Association, geology and zoölogy to the University Museum, anthropology and ethnology to the Peabody Museum, botany to the Herbarium, astronomy to the Observatory, engineering to the Scientific School, architecture and landscape design to the new architectural building; and claimants for other sections would doubtless spring up if the process were once begun. This would place us immediately on the basis of a well developed departmental library system and would commit the Library to an entirely different policy from what it has pursued hitherto. It would leave in the central library a fragmentary and one-sided collection of books, fairly rounded out probably in the fields of history, literature, philosophy, and economics, but confined on the scientific side to a few books of reference, popular treatises and old text-books, and perhaps other works having little present interest. In the opinion of some this is the ideal condition for a University Library, but such a change would be little short of a revolution for this Library. As the subject was discussed at some length in my first report, I will not refer to it further than to point out that the transfer of books to the departments, adopted now as a measure of relief on account of our crowded condition, would be a step in this direction, the character of which should not pass unobserved.

Another method of securing shelf-room is suggested by the fact that every large library contains many useless books and many books having only a very slight or a very remote use. It is accordingly sometimes proposed that the useless books, and even those of doubt-

ful utility, should be resolutely weeded out from time to time, leaving those which may be thought to possess some real current or future value. Suitable as it might be for a small library, situated within easy distance of larger neighbors, to limit its collections in this way and even to confine itself to books of strictly current interest, the difficulties and disadvantages of such a plan applied to the oldest and one of the greatest depositories of the country are evident. The expense of the process of withdrawal would itself be burdensome, while the labor involved on the part of those whose expert advice would have to be sought in order to make the selection a reasonably wise one would be very great. And after all, no matter how great the care bestowed, or how many the experts consulted, the selection could not fail to be unsatisfactory. Probably we cannot choose more wisely for our successors of another century than would our predecessors of the last century have been able to choose for us. In one respect, it is true, we have to choose, namely in deciding beforehand what to buy and what to accept as gifts, thus determining the direction in which our collections may most profitably increase. But what the Library once receives and incorporates in its collection, that it becomes responsible for, and should preserve for future reference, since there is scarcely a book or a printed sheet that does not record some fact or aspect of current life, and hence possesses its own special interest to the student of human affairs.

It remains true nevertheless that every old library contains an increasing amount of what might be called "dead wood," which impedes the progress of the student as the dead branches in a pine forest block the way of the walker, and it may well be that in time such dead wood will have to be thinned out and stored away at one side, making a library "wood pile" which can be looked over and drawn upon when necessary, but will not constantly cumber the ground.

This suggests a third measure of present relief, namely to transfer temporarily to some other building certain classes of little used books and the dead portions of such other classes as are most crowded. This would give room for the reclassification of those branches not already classified and would keep for the time within their present limits the classes most congested. Such a course is not free from objection, but the books removed would still be accessible if needed, and errors of judgment in the separation would not be so serious as if the books taken out were permanently alienated from the Library. This seems to me the most practicable relief measure for us to adopt if we are forced by lack of shelf-room to take some action. The

most desirable location for such a deposit would probably be the basement of the new architectural building, if any space could be assigned to this use; and if space can be had there I should recommend the removal to the same place of the 1,500 volumes of newspapers which still remain in the basement of Perkins Hall.

In February last, at the suggestion of Professor W. M. Davis, I sent a circular to all officers of the University and to a limited number of representative undergraduates asking them to keep during the month of March a careful detailed record of their daily life, the object being to bring together the materials for as complete a picture as possible of the life of the College community at the present day in all its various aspects and relations. The proposition was cordially received by almost all the persons to whom the circular was sent, and the task (no light one for men whose days are so full) was accomplished by some in very generous detail, by others in a more summary fashion, while many naturally found it beyond their strength. I have, however, received about seventy journals for the month and these will shortly be deposited in a strong chest and sealed; the collection as a whole is not to be opened for sixty years, but individual records may be examined after twenty-five years, if the writers have died, and the journals are desired for biographical reference. The English instructors whose classes write daily or weekly themes kindly took up the idea and from time to time during the month required their students to write an account of their doings during the day or week just passed, and these papers, several hundred in number, will add to the detail of the picture. I also asked for contributions of photographs to be put away with the journals, and the Camera Club coöperated by offering prizes for the best collections contributed. We are especially indebted to Mr. W. B. Swift of the Class of 1901, President of the Camera Club, who sent in a collection of some 150 admirable photographs of his own taking, illustrating many aspects of college life as well as nearly all the College buildings, and to Mr. Julian Burroughs of the Class of 1903, who contributed many others, especially interiors of students' rooms.

A good number of these will be deposited with the journals; the rest I propose to make the nucleus of a pictorial collection illustrating the topography of the College and its manners and customs at all times. To this end I have asked the coöperation of all officers and students who use a camera, and shall try to obtain also the help of graduates. I also count upon the assistance of the Camera Club in keeping the collection complete and making it reflect every change in the conditions of the College Yard and its surroundings.

No new numbers of the Bibliographical Contributions have been issued during the year, but two are in preparation. We did, however, print, in pamphlet form for distribution, a few copies of a list of the Newdigate Prize poems given to the Library by Mr. T. K. Lothrop. We have also printed a supplement to the Index to the Subject Catalogue which was completed in 1891. This Supplement makes a pamphlet of twenty-nine pages and contains about 2,500 headings, representing perhaps 2,000 new subdivisions introduced into the subject catalogue in the last nine years, as required by the current work of the cataloguing staff.

In February the discovery was made that many old books had been mutilated by having the front cover cut off, the object being to secure the book-plate pasted on its inner surface. These book-plates, having been engraved as early as 1765 and not being now in use, have unfortunately become precious in the eyes of book-plate collectors, so that the books which bear them are tempting morsels to an unscrupulous person who knows their value. Inquiry among collectors of book-plates soon directed suspicion toward Dr. Charles E. Cameron, of Boston, a Canadian physician, through whose hands, it was afterwards learned, nearly a hundred of these plates had lately passed. Evidence sufficient to justify Dr. Cameron's arrest was procured, and he was arrested on March 15, and was held for the Grand Jury. When his case came before the Court, Dr. Cameron pleaded guilty, but his sentence was postponed until autumn in order to give him an opportunity to make what restitution he can to the Library and to the persons to whom he had sold the plates. About 220 plates were found to have been taken from the Library, and of these 84 have been returned by the persons who bought them of Dr. Cameron, all but one or two of whom have responded to my inquiries with the utmost readiness and of their own accord have restored what plates they had without asking for compensation. It is understood, however, that Dr. Cameron will make good their loss by repaying to these gentlemen the sums he had received from them. Twenty-two other plates have been returned by Dr. Cameron and ten more are expected from another purchaser.*

The accessions to the University Library for the year, and the present extent both of the Gore Hall collection and of the several department libraries are shown in the following table. The figures given for the total in Gore Hall are probably in excess of the fact as has been pointed out before, but the extent of the inaccuracy cannot

* Since writing the above seventy additional plates have been returned by Dr. Cameron.

be readily determined until the unclassified portions of the Library have been rearranged.

ACCESSIONS.	Volumes added.	Present extent in	
		Volumes.	Pamphlets.
Gore Hall (College Library)	19,721	398,000	386,000
Law School	6,209	56,621	6,606
Lawrence Scientific School	202	4,746	859
Divinity School	579	30,023	6,832
Medical School	39	2,279	..
Museum of Zoölogy	252	32,467	24,346
Astronomical Observatory	281	9,716	14,949
Gray Herbarium	90	7,655	5,547
Bussey Institution	70	4,100	10,650
Peabody Museum	84	2,210	2,572
Arnold Arboretum	685	7,408	..
Dental School	206	493	..
Laboratory and Class-room Libraries . . .	1,370	21,232	..
Total	29,788		
Deduct, transfers between Gore Hall and Department Libraries	162		
Total	29,626	576,950	458,361

Of the 19,721 volumes added to the Gore Hall collection, 6,774 came by purchase or exchange, 1,078 as the result of binding serial publications, and 509 by binding pamphlets separately, while the remainder, 11,360 volumes, were received by gift. The last number exceeds the highest previous record by nearly 4,000. The total accessions to Gore Hall exceed last year's accessions by over 4,500; and are almost double the average increase (10,731) of the previous ten years.

By far the most important addition of the year has been the Riant library, which we owe to Professor Archibald Cary Coolidge's interest in the history of Turkey and the Latin East, and to his own generosity and that of his father, Mr. J. Randolph Coolidge, of Boston, in giving the larger part of the money needed to make the purchase.

Count Paul Riant, who died in December, 1888, at the age of fifty-two, had devoted his life to the study of the Latin East, the Crusades, and the traces left by the Crusaders in Constantinople and Palestine. The foremost European scholar in this field, he had been elected a member of the Académie des Inscriptions et Belles-Lettres in 1880 on account of his services to historical study as the founder and director of the "Société de l'Orient Latin," and because of the

value and originality of his published investigations, especially his "*Exuviae sacrae constantinopolitanae*" which traces the fate of the treasures brought away from Constantinople by the Crusaders.

"Equipped with a thorough classical education and an extraordinary knowledge of printed sources, he possessed also a fine critical sense, a rare sagacity, and an indefatigable perseverance." Ill health prevented his working in Paris, but at his country place in Vorpillière, Valais, by means of ample resources and unflagging zeal, he brought together the great library which is no doubt the richest special collection in existence devoted to this subject. One section of the library related to Scandinavian subjects and this was acquired some years ago by Yale University. The other and larger portion is that which has come into the possession of this Library. No detailed description can be given here, but the wealth of its material may be inferred from the extent of the following sections: Crusades, 476 numbers; Wars against Turkey, 319 numbers; Military and Religious Orders, 224 numbers; History (largely chronicles, sources, etc.), 1003 numbers; Geography of the Holy Land, 503 numbers; Theology (including relics of Christ, worship of the Virgin, pilgrimages, relics of the Saints, etc.), 526 numbers; Ecclesiastical history, 391 numbers; Literary history and bibliography, 1016 numbers. Under many numbers from three to fifteen different works are included, which raises the number of volumes relating to the different subjects much above the figures given. Taken as a whole, this is probably the most valuable collection of books that the Library has ever received, with the possible exception of the Ebeling library of American history received in 1818 from Israel Thorndike.

The price asked for the collection was 70,000 francs, but after deducting the value of the duplicates already owned by the Library, most of which were left in Paris to be sold, among them being a number of valuable sets, the total cost, exclusive of freight from Paris to Boston (\$335) proved to be \$10,735. Of this sum the Library contributed \$2,010 from its book funds, Mr. J. Harvey Treat, of Lawrence, Mass., to whom the Library has already been indebted in other years for generous gifts, gave \$800 to cover the cost of the theological section of the library, and the Divinity School Library added \$600 to provide for the section devoted to ecclesiastical history, subjects of secondary interest from the point of view of the historian of the Latin East, while \$75 paid for certain books desired for some of the class-room libraries. The balance, \$7,250, was supplied by Mr. J. R. Coolidge and Professor Coolidge, including in this sum the unexpended portion of Mr. J. R. Coolidge's gift of *the previous year*, which had been intended for a similar purpose.

The library as it reaches us numbers 7,649 volumes and 1,162 pamphlets, of which 603 volumes and 45 pamphlets are the property of the Divinity School. These latter, not having been yet sent over to the Divinity School and added to its library, are not included in the accessions of the year.

Fortunately the collection is provided with an excellent printed catalogue, which makes the incorporation of the titles in the regular library catalogues a matter of less pressing importance. As a preliminary catalogue record, the printed titles have already been mounted on cards which can be immediately inserted in the official catalogue with little trouble. The books themselves will be distributed to their appropriate places as rapidly as possible without waiting for further cataloguing. About 870 volumes have already found a home in the "Ottoman" and "Modern Greek" sections; some 600 more are being combined with other books already owned by the Library, and will form a new group devoted to the history of the Crusades, the Crusading Knights, and the Latin Kingdoms of Jerusalem, Constantinople, and Greece. The hundred manuscripts will remain permanently together as the Riant MSS. and the incunabula, 99 in number, likewise remain for the present undistributed, and in the same locked cases that contain the rarer books from the Schefer and Riant libraries.

In order to give a special distinction to these books and to honor the name of the scholar who collected them, a special book-plate of appropriate character has been designed and engraved by Mr. E. H. Garrett, of Boston.

An ample supply of copies of the printed catalogue has been received from A. Picard et Fils, who negotiated the sale, and copies will be sent to the principal libraries of the United States in order that a knowledge of what is accessible here may be spread as widely as possible.*

From the executors of Edward Ray Thompson, Esq., of Troy, N. Y., the Library received 1928 volumes and 30 pamphlets, Mr. Thompson having provided in his will that his library should either be given to some institution of learning or be sold at auction in New York. The books are mainly the works of standard English and French authors in the best editions, and in many cases, exquisitely bound. A considerable number have accordingly been withdrawn from general circulation and are kept in locked cases for special use.

* Already a request has been received from a French savant for a photographic copy of the title-pages of two books in the Riant collection, which had been sought for in vain in European libraries.

The others supplemented very acceptably what we already had and also provided a desirable number of duplicates. Of the latter some have been placed in the Child Memorial Library and other class-room libraries. The executors wisely refrained from asking that the collection be kept together, a request that is frequently made in such cases and naturally seems desirable in the eyes of the owner or his friends. The acceptance of a gift on this condition is not, in my opinion, a wise policy, unless the books are individually so rare and valuable that they must in any case be kept apart under lock and key, or unless they relate to so limited a field that they naturally belong in a compact group, with which the material on the same subject already in the Library may be incorporated, the whole receiving and perpetuating the name of the original collector and donor. Even then a special fund is generally necessary in order to maintain the collection at such a point of completeness as to do honor to the memory of its originator. A general collection, however admirable at the time, loses its distinction after a few years if not added to in the same spirit in which it was formed, and soon ceases to be a worthy memorial. Nevertheless I would gladly allow such a gift as the Thompson bequest to be kept together for some years if we had a suitable place to shelve it, where it could be seen and enjoyed. At present not only have we no such place, but the scattering and cataloguing of these books had to be hastened as much as possible, the shelf room in the stack temporarily assigned to them being imperatively needed for other purposes.

A special book-plate of charming design was engraved for these books also by Mr. E. H. Garrett, of Boston, at Mr. R. H. Thompson's expense.

From Mrs. Emil C. Hammer, whose husband was Danish Consul in Boston from 1859 to 1894, the University received the sum of \$500 to be used for the promotion of Scandinavian studies. At Mrs. Hammer's request about \$200 of the sum was applied to the expenses of a concert of Scandinavian music, and the remainder was devoted to the purchase of "Scandinavian books and books relating to Scandinavia." These purchases are made under Dr. Schofield's advice and direction and have been confined so far almost exclusively to Norwegian literature.*

From the J. C. Ayer Company, of Lowell, we have received the library of Alphonse Marsigny, a Belgian and for many years a priest of the Roman Catholic church, who had long been in the employ of

* Mrs. Hammer has generously repeated her gift of last year, giving another \$500 to be used for the purchase of books in the same field during the year 1900-01.

the Ayer Company and being versed in many tongues had translated their almanacs and advertisements into a great variety of languages. His library contains little that is notable, but includes many out of the way publications in foreign, and especially Oriental, languages, such as naturally drift into the possession of a rambling scholar, and finally find a suitable resting-place in a great university library. The collection numbers 549 volumes and 48 pamphlets.

Thornton K. Lothrop, Esq., of Boston, generously provided the means of securing for the Library an extraordinary collection of the Oxford Newdigate prize poems offered for sale by a gentleman in New York. The series of these poems is complete from 1822 to 1890 with one exception, R. C. Sewell's poem in 1825, and there is reason to believe that this was never printed in separate form; all but two are the contemporary pamphlet first editions. A collected reprint issued in 1828 made the series absolutely complete from 1806, the date of the earliest award. The few poems of more recent date, 1891 to 1900, were afterwards obtained from England at Mr. Lothrop's expense. Most of the writers have not won further distinction as poets, but the list includes a number of well-known names: H. H. Milman (1812), Roundell Palmer (1832), Faber (1836), Stanley (1837), Ruskin (1839), J. C. Shairp (1842), Matthew Arnold (1843), Edwin Arnold (1852), Symonds (1860), Mallock (1871), Oscar Wilde (1878).

Madame Edgar Quinet has continued to send us from time to time the works of her husband as published in a new complete edition.

Mrs. Justin Winsor has added to Mr. Winsor's Garrick MS. and Garrick memoranda a volume of portraits of Garrick and his contemporaries.

On the death of Mr. Samuel May, the Secretary of the Class of 1829, which occurred on November 24, 1899, his class record book and other papers were deposited in the Library with the consent of the surviving members of the class, Mr. Charles Storrow, of Boston, and Dr. E. L. Cunningham, of Newport. The record book contains a most interesting account of the meetings of this famous class held with unexampled regularity from 1838 to 1893, a period of fifty-five years, and it also brings together an abundant series of references, newspaper clippings, etc., relating to the careers of the individual members of the class. The mass of loose papers of a similar character have been arranged and mounted by Mrs. Eben Dale, Mr. Storrow's daughter, as a labor of love, and Mr. Storrow has provided for their preservation three stout leather boxes, and a leather case for the record book.

Capt. John Bordman (Class of 1894) of the 26th U. S. Infantry, stationed in the Philippines, has sent us a file of the "Revolucion" from December 18, 1898, to February 10, 1899. This was the official organ of the native government of the state of Visayas, established at Jaro, and contains much material of the highest interest, illustrating the condition of affairs among the natives previous to the American occupation. A few other papers, broadside proclamations and documents, have also been received from Capt. Bordman, and occasional issues of Manila newspapers have been sent us from another source.

The Quarterly Journal of Economics has continued to send many of its review copies of current books and some of its exchanges, and Dr. S. A. Green, of the Massachusetts Historical Society, and Rev. Edward Abbott, the editor of the Literary World, still send frequent bundles of pamphlets, in which much that is of interest and value is found that might not otherwise be preserved.

We are indebted to Senator Hoar and Senator McMillan for many United States documents as issued, and especially to Mr. Charles Moore, of the Class of 1878, now clerk of one of the Senate committees, for current documents which it would otherwise be difficult for us to obtain.

Many other donors I would gladly name did space permit; to each an acknowledgment of his gifts has been promptly made at the time of their receipt.

The total gifts to the College Library during the year 1899-1900 and five previous years have been as follows:—

GIFTS TO THE COLLEGE LIBRARY.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
Volumes	4,351	3,903	5,048	2,646	7,096	11,360
Pamphlets	7,522	8,908	8,427	11,365	12,448	11,072
Totals	11,873	12,811	13,475	14,011	19,544	22,432

The accessions by gift and purchase to the University Library as a whole (excluding the laboratory and class-room libraries) have been as follows during the last twenty-one years:—

Volumes.	Volumes.	Volumes.
1879-80 . . . 7,247	1886-87 . . . 11,924	1893-94 . . . 15,788
1880-81 . . . 9,804	1887-88 . . . 16,468	1894-95 . . . 15,335
1881-82 . . . 9,129	1888-89 . . . 12,253	1895-96 . . . 17,317
1882-83 . . . 9,818	1889-90 . . . 16,051	1896-97 . . . 15,474
1883-84 . . . 12,360	1890-91 . . . 13,276	1897-98 . . . 16,706
1884-85 . . . 14,558	1891-92 . . . 13,785	1898-99 . . . 23,745
1885-86 . . . 9,191	1892-93 . . . 22,370	1899-00 . . . 28,256

Dr. Malcolm Storer, the Curator of Coins and Medals, reports that 156 coins have been received from various donors, 126 being from Mr. C. G. Rothschild, of the Class of 1902, and that 12 medals have been bought.

The Curator has given special attention to securing medals struck in honor of Harvard graduates and would be glad to have help in completing the collection. During the past year he has added medals commemorating the names of Louis Agassiz, Theodore Roosevelt, and John Trumbull.

LABORATORY AND CLASS-ROOM LIBRARIES.

The present extent of the laboratory and class-room libraries is as follows :—

LABORATORY AND CLASS-ROOM LIBRARIES.	Perma- nent.	On Deposit.	Totals.
1. Chemical Lab. <i>Boylston Hall</i>	537	1,035	1,572
2. Physical Lab. <i>Jefferson Phys. Lab.</i>	30	367	397
3. Botanical Lab. <i>University Museum</i>	582	124	706
4. Geological Lab. <i>Do.</i>	118	..	118
5. Mineralogical Lab. <i>Do.</i>	458	227	685
6. Phys. Geography Lab. <i>Do.</i>	343	174	517
7. Zoological Lab. <i>Do.</i>	266	..	266
8. Classics. <i>Harvard Hall 3</i>	3,342	143	3,485
9. History. <i>Harvard Hall R. R.</i>	1,937	17	1,954
10. United States History. <i>Harvard Hall R. R.</i>	883	8	891
11. Political Economy. <i>Do.</i>	1,148	1	1,149
12. Social Questions. <i>Do.</i>	840	6	846
13. Child Memorial (English). <i>Warren House</i>	3,472	80	3,552
14. Lowell Memorial (Romance). <i>Do.</i>	535	2	537
15. German. <i>Do.</i>	478	..	478
16. French. <i>Do.</i>	2,361	..	2,361
17. Sanskrit. <i>Do.</i>	668	12	680
18. Semitic. <i>Sever 7</i>	984	..	984
19. Mathematics. <i>Sever 22</i>	350	80	430
20. Music. <i>Holden Chapel</i>	162	..	162
21. Philosophy (Psychol. Lab.). <i>Dane Hall</i>	535	39	574
22. Fine Arts (incl. Gray and Randall Coll.). <i>Fogg Museum</i>	798	..	798
23. Architecture. <i>Archit. Department Bldg.</i>	252	..	252
24. Preachers' Library. <i>Wadsworth House</i>	94	..	94
25. The Study. <i>Phillips Brooks House</i>	59	..	59
Totals	21,232	2,315	23,547

The four libraries of History, United States History, Political Economy, and Social Questions (in all over 4,800 volumes) remain as heretofore in Harvard Hall in charge of an attendant. The room is open every week-day from 8.30 A.M. to 5 P.M., and at the close of the day books may be taken for over-night use. The reading-room is of essential service to the students in several of the largest elementary courses, and, though it contains a hundred chairs, it is now at the opening of the new year overcrowded, readers frequently being unable to obtain seats. The courses mentioned comprise altogether over 2,000 members, all of whom are required to do a certain amount of reading, and for so large a number a room of 100 seats is manifestly inadequate, yet there seems to be absolutely no space available for expansion. If some readers are induced to buy more books for their own use, the effect of the crowding will be so far a benefit, but in most courses the required reading, if the student had not this library to depend upon, would represent an expenditure of from fifty to two hundred dollars.

The Warren House on Quincy Street in which the libraries of the modern languages and of Sanskrit were installed last year has been moved during the summer back from Quincy Street to Prescott Street so as to make room for the new Harvard Union. At present it seems a little remote in its situation, but when the new club building is finished and occupied its proximity to what is expected to be a new centre of college life will be in its favor.

The collection of Romance literature in this building will be known henceforth as the "Lowell Memorial Library," some seven hundred volumes from Professor James Russell Lowell's library having been purchased with money subscribed for the purpose and added to the small collection already established. These books are mainly Old French and Spanish texts, and many contain annotations in Mr. Lowell's hand. These books have been received, but have not yet been placed on the shelves in the Warren House, and hence are not included in the figures given above.

USE OF BOOKS IN THE COLLEGE LIBRARY.

The following table shows the use of books at Gore Hall in 1899-1900 as compared with previous years:—

Use of Books.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
1. Books lent 'excluding overnight use.'	57,341	60,346	59,781	59,611	61,272	63,005	65,712
2. Used in the building (Recorded use only.)	22,442	23,500	22,330	22,965	27,017	25,395	29,773
3. Overnight use of reserved books . . .	25,377	30,965	3,394				
Totals	105,060	104,831	90,605	82,576	88,289	88,400	95,487
4. Overnight use of Harvard Hall Reading-room				9,366	11,338	12,046	13,460

Of the constant use of the reserved books in the reading-room, and of the collections of reference books, periodicals, and United States documents, freely accessible to all, no record is possible. The extent of these open collections and their growth is shown in the following table:—

OPEN COLLECTIONS.	1896-96.	1896-97.	1897-98.	1898-99.	1899-00.
Bound Periodicals	3,525	3,619	3,813	3,375	3,273
Reference Books	3,896	3,822	3,853	4,142	4,324
Reserved Books	7,677	8,090	8,117	8,344	10,134
U. S. Documents	3,370	3,465	3,592	3,664	3,887
Total	18,468	18,996	19,375	19,425	21,520

The increase in the number of reserved books indicates a more frequent change in the selection of books exposed to use, or perhaps more watchfulness in preserving a record of such changes, rather than a larger number reserved at the same time. Complaints are made occasionally that too many books are withdrawn from general circulation by being reserved on the shelves of the reading-room. This indicates, as it seems to me, not that we have carried the system too far, but that a better understanding should be had of the relative importance attached by the instructor to the books which he asks to have reserved, and that the Superintendent of the room should be expected to allow the less important books to be borrowed somewhat more freely than heretofore if wanted by officers of the

University. In such cases of course it would be expected that borrowers would return books at the earliest possible moment. It is also doubtless true that books occasionally remain on the reserved shelves longer than is really necessary, because the instructor neglects to give directions in regard to them. All the books which it is desirable to have permanently reserved for use by the students should be duplicated so that officers and others should not be deprived altogether of the privilege of borrowing them. A special appropriation was made for this purpose by the Library Council last year, and the appropriation will no doubt be continued until this difficulty ceases to cause dissatisfaction.

With the books in the Harvard Hall reading-room (4,840), in the Warren House (7,608), and in the other laboratory and class-room libraries (11,305), we have over 45,000 volumes which are directly accessible in an informal manner to the members of the University. Access to such a collection of carefully selected books, comprising the most useful works that can be found in all branches of study pursued at the University, is a precious privilege which I should be sorry to see in any way abridged. A little more elastic adjustment probably can prevent the reserved book system favoring the students unduly at the expense of the officers of the University. A more serious difficulty is to prevent individual students taking unfair advantage of their opportunities, and appropriating to their private use books which it is intended should be equally open to the use of all. Student opinion, when it finds expression, unhesitatingly condemns the practice, but it continues to exist, the result of thoughtlessness in some cases, of meanness in others, and occasionally, no doubt, of dishonesty.

During the year 64 volumes have disappeared from the reserved and reference shelves in or adjacent to the reading-room, a number about twice as large as the average in recent years. Cases of this kind, when detected, are dealt with severely, the student being deprived of all use of the Library for a month or more and until he can satisfy the Librarian that he will not again offend, while his name is posted in the reading-room as having abused the privileges of the room.

Cards of admission to different sections of the book-stack continue to be given, on recommendation of an instructor, to all advanced students who need to go directly to the shelves for purposes of investigation in connection with their work. Such students have the same facilities for the examination and study of all the resources of the Library, in their chosen departments, that the

officers of instruction enjoy. The use of these cards of admission to the book-stack is shown in the following table :—

ADMISSION TO THE BOOK-STACK.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
History	59	68	63	66	54	51	78	112
Science	28	27	9	4	11	33	43	30
Art (including Music)	4	8	5	11	18	34	38	33
Literature	62	63	58	63	64	90	90	85
Classics	26	45	44	41	41	52	60	70
Philosophy	5	17	12	6	4	11	19	19
Theology	12	3	3	1	1	3	5	1
Political Economy	9	15	15	12	4	9	12	18
Education . . . . .	..	3	..	1	5	2	8	4
Geography . . . . .	..	..	..	..	8	14	2	3
Total	205	249	209	205	210	299	355	370
Times of use	4,560	5,974	4,352	4,601	4,381	5,750	5,826	6,898

The number of individuals admitted was 320, not 370, because the same person sometimes received permission to use different parts of the book-stack.

The number of students who take books from the Library, and their relation to the whole number connected with the Cambridge departments of the University, is shown in the last three years and at previous ten year intervals in the following table :—

STUDENTS OF	1874-75.		1884-85.		1894-95.		1897-98.		1898-99.		1899-00.	
	Whole No.	No. taking books.	Whole No.	No. taking books.	Whole No.	No. taking books.	Whole No.	No. taking books.	Whole No.	No. taking books.	Whole No.	No. taking books.
Divinity . . .	20	16	26	26	50	40	40	36	26	26	27	27
Law	139	63	153	122	404	176	548	241	551	302	613	241
Scientific . .	29	21	28	21	308	144	410	186	415	273	495	218
Resident Grad.	55	18	70	52	242	204	272	241	308	267	326	289
Senior Class .	152	109	191	170	327	318	342	322	369	341	310	257
Junior Class .	159	96	234	216	348	335	387	333	335	309	392	311
Sophom. Class	208	124	256	220	425	323	450	305	508	446	508	380
Freshm. Class	197	108	255	205	399	236	471	264	471	381	498	308
Sp. Students .	..	..	..	..	168	127	169	127	168	143	194	145
Total . . .	959	555	1213	1032	2671	1903	3089	2055	3151	2488	3363	2176

These figures are subject to rather remarkable fluctuations from year to year for which it is difficult to assign a cause. For instance,

the number of students who borrowed books was 312 less than the year before, yet the number of books borrowed increased. The percentage of borrowers has varied within four years from 82 to 94 per cent. in the Senior Class, from 79 to 92 per cent. in the Junior, from 56 to 87 per cent. in the Sophomore, and from 56 to 80 per cent. in the Freshman Classes. Last year the proportion of Sophomores and Freshmen reached the highest point on record, this year the proportion of Seniors and Juniors falls to the lowest point reached in twenty years, but I cannot suggest a special reason for either fact. These figures do not mean, however, that so large a number of students (501 out of 1,902 undergraduates) made no use of the Library. Most of them, probably all, used the reading-rooms and class-room libraries, but it is a little remarkable that so many should have been satisfied with this, and not have been tempted to borrow additional books. The fact that several of the social clubs now support much larger and better selected libraries than they formerly did is doubtless one reason why many students do not find occasion to borrow from the College Library.

The use of the Library by students of Radcliffe College is shown in the following table. In our present building only very meagre opportunities for reading can be offered to Radcliffe students, but a messenger comes to the Library daily to take to Radcliffe College books sent for by the students. Since the lending of reserved books ceased in 1896, and with the growth of Radcliffe's own library, borrowing from the College Library has naturally declined.

BOOKS LENT TO RADCLIFFE.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
Borrowers	132	108	156	155	167	146	137	121
Books borrowed . .	1,057	1,162	1,672	1,502	1,320	1,191	1,273	1,125

In the course of the year the temporary use of the Library has been granted to 112 persons not connected with the University, who have come to Cambridge for purposes of study. The usual number of applications from other libraries, especially college libraries, and from scholars in distant parts of the country have been received, and the Library has been able to send away 475 volumes in response to these requests. This number is somewhat larger than in any previous year, but no instance of loss or injury has occurred, and it is thought that the convenience of college officers and of other scholars in Cambridge has not been interfered with by the temporary withdrawal of these volumes.

The Sunday use of the reading-room is shown in the following table. The room is open, to readers only, every Sunday in term-time from one to half-past five in the afternoon. Books may be obtained freely from the book-stacks on request, but are not to be taken from the building.

SUNDAY USE.	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
Sundays open . . .	37	37	36	24	35	35	35	35
Users	3,716	3,658	3,634	2,359	5,010	4,635	5,093	4,846
Average	100	99	100	98	143	132	145	138
Highest No.	185	186	181	140	227	297	260	286

SHELF DEPARTMENT.

On May 1, Mr. N. D. C. Hodges resigned his position on the Library staff to become librarian of the Cincinnati Public Library. Mr. Hodges came to this Library in March, 1897, and during the three years of his service had been in charge of the reclassification of the scientific portion of the Library. He had established the classification of this whole section of the Library on excellent, practical lines and on what I believe may be considered a permanent basis. An outline of the scheme was presented in my first annual report. The groups classified and arranged by Mr. Hodges are the following: Learned Societies, Scientific Periodicals, General Science, Natural History, Anthropology, Zoölogy, Botany, Geology, Physical Geography, Mathematics, Astronomy, Navigation, Physics, Chemistry, Engineering, and War, including in all about 31,000 volumes. It is fortunate that Mr. Hodges was able to complete the work on this well rounded group of subjects before being called away to another library.

Mr. Frank Carney, who has charge of the current work of the shelf department and has also been engaged on the classification of Political Economy, reports 13,616 volumes permanently located in the stack during the year, 11,070 added to classes previously arranged, and 2,546 newly classified, making 257,485 volumes so placed of the entire Gore Hall collection.

The newly classified sections are the following:—

Modern Greek History and Literature	306
Chinese History and Literature	375
General Science	234
Anthropology	173
Physical Geography	473
Art of War	985
Total	2,546

This small number, insignificant in comparison with the numbers reported in recent years, is due on the one hand to the loss of Mr. Ayer and Mr. Hodges, who were employed without interruption on this work, to the increase in the receipt of current books which has been specially marked during the past year, and to the distribution of some 4,000 current pamphlets into boxes on the shelves, a task which has lately been added to the duties of this department, and on the other hand to the fact that the classification of the extensive group, Political Economy, is still in progress and, therefore, has not been included in the count, although 2,600 volumes are entirely finished and the arrangement of the remaining 4,000 is well advanced. Several important subjects still await classification, — bibliography, ecclesiastical history, theology, oriental literatures and history, — but no further substantial progress can be made until more space is at our disposal.

During the summer the books on China were brought together and classified, the current interest in the subject and the prospective increase of publication which that interest brings making it desirable to collect into one place what we have. Our material on the Crusades and related subjects, which has been very much strengthened by the riches of the Riant library, is also in progress of arrangement.

A summary of the contents of the Library, giving the number of volumes in each class, was given in last year's report.

The thorough system of shelf examination in operation during the preceding year was interrupted in 1899-1900, in consequence of which the constant misplacement of books on the shelves, unavoidable where so many persons have access to them, was less promptly corrected, but I expect to be able during the coming year to revive the methods which have been found to work well before.

A thorough examination and checking with the shelf-list is always made in the summer, covering the whole of the classified portion of the Library. This process required this summer the whole time of two men and two boys for about two months and covered about 265,000 volumes. It resulted in restoring to their shelves 226 books which had been misplaced in the course of the year, and showed that 185 books were missing (about twice the usual number), 64 from the reference and reserved shelves in the reading-room, 4 from among the new books displayed in the delivery-room, and 67 from the book-stack to which only officers of the University and advanced students are supposed to have access. Of these latter books a large part will probably be returned, the persons taking them having inadvertently neglected to charge them. Of books missing in previous years 31

were found in the course of the examination this year. Of the 1,403 books reported missing during the last eighteen years, 557 have been recovered.

CATALOGUE DEPARTMENT.

The work of the Catalogue Department as compared with previous years is roughly shown by the following table : —

CATALOGUE WORK.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
Titles catalogued					
for College Library . . .	7,564	8,990	9,974	12,276	12,788
for Departments, etc. . .	2,668	2,820	3,026	2,087	2,378
Total	10,232	11,810	13,000	14,363	15,116
Cards added to Catalogue . .	27,428	21,282	25,093	22,995	26,055

The serious problem before the Catalogue Department is to handle accessions which during the last two years have exceeded the average of the previous ten years, in one case by fifty per cent., in the other by almost a hundred per cent. The staff itself on the other hand has not been increased, and has unfortunately lost in the course of the last half dozen years several experienced and valuable members. No present increase is possible for two reasons; lack of means on the part of the Corporation, over \$20,000 of the expenses of the Library administration being chargeable to the general College income each year, and lack of space on the part of the Library, every foot of desk room being already occupied, and several members of the staff being already crowded out into the passageways of the stack where it was never intended that clerical work should be done. Under these circumstances, the only course is to devise such time-saving methods for temporary application as shall give us the best record practicable under the given conditions, and to apply these methods in such a systematic manner that whatever work is slighted now, as being of secondary importance, can be taken up later and completed with the least possible duplication of labor. With this object in view the plan proposed in my last report has been put into operation and is found to work well. The general result is that all books bought, except a few of very limited interest, and all gifts of new and interesting books are catalogued with reasonable promptness and in full; gifts of slight value, large collections (like the Riant library) of undoubted value, but on account of their bulk incapable

of being included in the ordinary current of work, and the few purchases referred to above which are of interest to a very small number of persons, are catalogued with the least possible formality on simple author cards for the official catalogue, but are not recorded on the public card catalogue either under author or subject. Some of these books are located in their permanent places in the shelf classification, others, of less importance, are given a temporary running number; but in either case they can be consulted and borrowed as freely (though not found as readily without assistance) as fully catalogued books, and danger of duplication is avoided by the record in the official catalogue. Pamphlets, as stated in my last report, are either (1) fully and separately catalogued like bound volumes, or (2) catalogued under authors on the official catalogue only like the second class of books above, or (3) if not of such a kind as to give a serviceable author entry, are sent, without catalogue record, to boxes on the shelves containing other material on the same subjects, or (4) when they cannot be usefully classified in this way, they go to the alphabetically arranged files of uncatalogued pamphlets.

I will not attempt this year to make any statement of uncatalogued or partially catalogued books on hand. The number of uncatalogued books is naturally very much larger than in recent years, but the greater part of these will in a short time take their place in the class of partially catalogued books, and in this form I shall report them from year to year. It is important that as soon as possible regular uninterrupted labor should be devoted to completing the work on this partially catalogued collection, in order to prevent its becoming so large as to be a serious burden.

The cataloguing of articles in periodical publications has been continued in coöperation with four other large libraries, the results of the work being made accessible by the Publishing Board of the American Library Association to all other libraries at a moderate cost. For this undertaking we have furnished 586 titles catalogued in this Library, and we have received from the central office printed cards (four copies for each title) for these 586 and for 2,256 titles in addition catalogued by the other libraries, making 2,842 in all at a total expense of \$35.19. The Publishing Board also issues similar printed cards, not prepared by coöperation, for a number of sets of volumes and composite books. Of these we have lately received 915 cards for the articles in the annual reports of the Smithsonian Institution (1886-95) and for the addresses of the presidents and vice-presidents of the American Association for the Advancement of Science, as printed in its Proceedings, 1875-98. These cards are

sold for a cent a piece, and are perfectly adapted to general catalogue use. Similar cards have been received during the year from the Massachusetts State Library for the monographs contained in the public documents for 1897, and from the United States Department of Agriculture for the articles contained in its Year-books from 1894 to 1898 and in the whole series of its Farmers' Bulletins.

The more important titles catalogued by means of these various card publications are inserted in the general public catalogue. The rest are filed in special drawers in two series, one alphabetical by authors, the other alphabetical by general subjects. The cards in the latter series will be weeded out from time to time, leaving only the more recent titles.

ORDERING DEPARTMENT AND FINANCIAL CONDITION.

The following table shows the income of our book-funds, receipts from other sources for the purchase of books, and expenditure for books during the last six years.

INCOME AND EXPENDITURE.	1894-95.	1895-96.	1896-97.	1897-98.	1898-99.	1899-00.
From book Funds, —						
Balance from previous year	\$3,509	\$4,131	\$2,864	\$2,303	\$737	\$5,033
Income of the year	14,916	15,189	13,991	13,010	18,306	18,464
Total available	18,425	19,320	16,855	15,313	19,043	23,497
Spent for books	14,294	16,456	14,552	14,576	14,010	18,361
Balance to next year . . .	4,131	2,864	2,303	737	5,033	5,136
Special gifts, sales, etc. —						
Balance from previous year	1,184	1,396	1,205	1,176	839	2,940
Received during the year .	534	2,958	349	506	3,906	5,076
Total available	1,718	4,354	1,554	1,682	4,745	8,016
Spent for books	322	3,149	378	843	1,805	7,140
Balance to next year . . .	1,396	1,205	1,176	839	2,940	875
Total spent for books, —						
College Library	\$14,616	\$19,605	\$14,930	\$15,419	\$15,815	\$25,501
Department Libraries* . .	5,028	5,184	4,070	5,322	3,869	4,748
Total	\$19,644	\$24,789	\$19,000	\$20,741	\$19,684	\$30,249

* Not including the Law School, which spends from \$3,600 to \$11,000 a year for books, but does not order through the College Library.

The work of the Ordering Department, in charge of Mr. Potter, is summed up in the following table : —

WORK OF ORDERING DEPARTMENT.	1896-96.	1896-97.	1897-98.	1898-99.	1899-00.
New orders, —					
Total received and examined . . .	5,744	4,152	6,687	7,049	13,001
Already owned or ordered	1,363	964	1,383	1,712	3,205
Forwarded	3,798	3,016	3,746	5,010	9,613
Estimate of cost, —					
For the College Library	\$9,223	\$5,970	\$6,765	\$9,510	\$19,355
For Departments	4,556	3,245	3,306	1,942	3,066
Total estimated cost	13,779	9,215	10,071	11,452	22,321
Shipments received from abroad . .	28	22	31	29	44
*No. of vols. bought for College Lib. .	5,854	3,531	4,335	6,045	6,774
†Total gifts examined and passed on .	12,811	13,475	14,011	19,544	22,489

Under "new orders" are included both books bought with library funds and books paid for by gifts, such as the Hammer gift and the Coolidge and Treat gifts for the Riant books, since the labor and responsibility of forwarding these orders falls to the Ordering Department. It will be seen that the work done by the department was nearly twice as great as during the preceding year, and in some respects three times what it has been in other recent years. Half of one extra person's time was given for several weeks to examining the books received from the Gurney library, but otherwise the year's work was done, but done under unusual pressure, by the regular assistants of this department. Mr. Potter remarks in regard to this : "The work at times necessarily fell behind. There were occasional long delays in the despatch of orders, gift books and pamphlets had to be laid aside, and I was unable to give as much supervision to the details of the work as I wished, nor did I have time to keep a proper watch on new publications." That under the conditions there were not greater delays and more work left undone is a cause for congratulation.

Among the more important purchases of the year may be mentioned a MS. Armenian Bible, a collection of 362 pamphlets, mostly in Dutch, relating to English affairs in 1689, the accession of William III, and the naval wars between the Netherlands and England; a MS. copy of Turberville's translation of the Eclogues of Mantuan from the copy in the British Museum, supplementing a copy of Books I and VI

* Excluding volumes formed by binding periodicals and pamphlets.

† Including both volumes and pamphlets. See p. 222.

of the same work given to the Library by Mr. H. A. Eaton, of the Class of 1898; several MS. account books kept by Capt. E. Marrett, of Cambridge, in the last century, a dozen of Halliwell-Phillip's privately printed books, and many volumes on South African affairs.

For somewhat more than a year all our foreign shipments have been coming through the American Express Company instead of by freight as previously, and Mr. Potter has made an interesting analysis of the result. From our English agents, Messrs. Kegan Paul, Trench, Trübner & Co., we have received smaller shipments at correspondingly more frequent intervals, and though the average time between the date of the invoice and the receipt of the books in Cambridge has increased from 21 to 23 days (owing perhaps to the special unfavorable conditions of last winter's steam traffic between England and America) there has been a substantial gain in the general promptness of filling orders. Mr. Potter's table of statistics shows, for instance, that within two months from the date of order we receive 38.7 per cent. of the books ordered, against 28.7 per cent. three years ago, and that within three months 98.5 per cent. of our orders are filled, against 70.6 per cent. three years ago. From this consideration are excluded of course books ordered to be sent by mail and old books sure to be difficult to find. The expense, in spite of the more frequent shipments, has decreased. Including consular certificate (not required for the smaller shipments if they are under £20 in value), packing cases, transportation, and custom house expenses, the average cost per volume has been 9.1 cents by express against 10.5 cents by freight.

In our shipments from France and Germany no change has been made in frequency of despatch, and the saving under the new conditions is more marked. Omitting the charges for packing cases and for consular certificates, the cost per volume has been, from France, by freight 9 cents, by express 6.4 cents; from Germany, by freight 5.7 cents, by express 4.3 cents.

Mr. Potter makes the following suggestion in regard to appropriations, which I heartily endorse. "In my report for the year 1894-95, in speaking of the failure to buy books on subjects outside those covered by the regular college curriculum, I made the following suggestions, which I beg leave to quote: 'I would suggest that each year a special appropriation be given the Ordering Department to cover some of these neglected topics; that each year a different subject be taken up and, by working up its bibliography, an attempt be made to gather at least a representative part of the literature relating to it.' This proposition was never acted upon, but I desire to repeat

it with emphasis gained from the experience of the last few years. Whenever a course is started in a subject not previously taught in the College, the weakness of the Library in that subject becomes manifest. Some of the subjects that might be taken up with advantage on such an appropriation are: Grammars and dictionaries of the lesser known languages and dialects; Portuguese literature; the languages of the Philippine and other Pacific islands and of Africa; London, history and description; Canada, modern history and politics; the history and geography of South America; of Central America; of the West Indies; of Australia; of Polynesia. On all of the above subjects the Library is very weak: an appropriation of \$100 or \$200 for any one of them would go far toward providing at least a respectable collection on the subject. By continuing thus from year to year to build up different collections, the resources of the Library would be very materially strengthened. In this connection I would suggest that an appropriation be made each year for Current Events, none of the present appropriations being properly chargeable with such books, many of which the Library ought to buy. Under this head would come, for example, the books we have bought within the last few years on the Spanish-American war; on the Dreyfus case; on the Transvaal; and now on China. An appropriation of \$150 might be made for this, with the understanding that any unexpended balance could be used toward the end of the year for other purposes."

THE ARCHIVES AND THE HARVARD COLLECTION.

Mr. William Garrott Brown, the Deputy Keeper of the University Archives, reports in regard to the two collections under his charge, the addition of fifteen volumes and five bundles to the Archives, and of 195 volumes and singly bound pamphlets and 42 boxes or bundles to the collection of printed matter illustrating the history of the University. These figures do not, however, adequately represent the volume of the additions which are constantly being made, especially to the latter collection, the vast majority of the accessions being in the form of pamphlets, leaflets and broadsides, which find a place according to their subject in boxes and bundles already established. The extent of these publications is shown by Mr. Brown's statement that since his last report he has received and placed 4,480 separate items, varying in size from a single printed sheet to a huge unbound folio, many of them being as troublesome to place as bound volumes.

"Of the accessions as a whole, very little can be said. They include a few rare books connected with the earlier history of the

University,—e. g. two MS. text-books by Vice-President Morton,—but the great mass of them relate to more recent times, and more than half to the work of the University during the year. The gift by a member of the German Department, Mr. A. B. Nichols, of an adequate collection on the German play, and the receipt of much material concerning the Cuban teachers' expedition and other notable enterprises of the year, suggest the propriety of asking, through this report, that all officers of the University in charge of departmental affairs in future take some pains to bring together for our files memorabilia which otherwise will rapidly disappear."

All the early manuscript records of the College have been preserved in fairly sound condition, except the earliest portions of the Treasurer's accounts covering parts of the years 1669-1698. These suffered from a long sojourn in John Hancock's carriage house where they were eaten by insects and discolored and rotted by damp, and since their rescue in an incomplete condition they have not been in such a state that they could be handled without falling to pieces. In May, with the permission of the Corporation, these ragged pages were taken in hand by the Emery Record Co., of Taunton, and with admirable skill they have been mounted between almost transparent sheets of white silk so that they may now be freely handled and are saved from further deterioration.

Mr. Brown again calls attention to the crowded and uncomfortable quarters in which his collections are installed, to the insufficient light and to the lack of any suitable place in which either he or anyone else may consult them. He suggests the possible erection of a small, safe and reasonably comfortable muniment room near the Library. Such a building would meet a very pressing need, but I do not see that it could be wisely provided until the question of the future growth of the Library is determined, for it should be either an integral part of the Library building or very closely connected with it and opening from it.

Mr. Brown has the names and fairly full records of 402 Harvard men who entered the military or naval service during the Spanish war, but while fighting continues in the Philippines no final publication of these records is advisable.

"Much time has been given to lesser investigations undertaken for officers of the University and for various other persons. The number and character of the inquiries which, to whomsoever addressed, come finally to the Deputy Keeper, lead to the conclusion that the interest in education, and in the history of American colleges, particularly of Harvard, is perceptibly increasing. The number of

societies and individuals who undertake biographical work is strikingly evidenced, and so is the facility with which persons possessing a New England ancestor persuade themselves that he must have been at Harvard. Many of these inquiries are easily answered from the reports and other material deposited here by class secretaries."

WILLIAM COOLIDGE LANE,
Librarian.

THE GRAY HERBARIUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—No change has been made during the past year in the regular staff of the Gray Herbarium. In July and August, however, it was increased by the employment of Dr. Edwin B. Uline as temporary assistant.

The Herbarium and its library have, as usual, been open for consultation from 9 A.M. until 5 P.M. throughout the year except on Saturday afternoons, Sundays, and legal holidays. Many professional botanists as well as amateurs have availed themselves of the facilities, thus offered, for the critical identification of plants. Among the visiting specialists the following may be mentioned: Professor C. V. Piper of the Agricultural College of Washington, and Professor L. F. Henderson of the University of Idaho (both engaged in a critical examination of our northwestern flora); Professor C. F. Millspaugh, Botanical Director of the Field Columbian Museum (engaged in the study of the flora of Yucatan and the West Indies); Professor George Macloskie of Princeton University (identifying plants from Patagonia); Dr. J. N. Rose of the U. S. National Museum (examining tropical American types, chiefly Mexican *Umbelliferae*); Professor F. Lamson Scribner and Assistant E. D. Merrill of the U. S. Department of Agriculture (studying the less known American grasses); Professor L. M. Underwood of Columbia University (tropical ferns); President E. Brainerd of Middlebury College (New England *Cyperaceae* and *Rubi*). During the year 48 loans of specimens (including 2868 sheets of material) have been sent out to other herbaria and to monographers.

The more noteworthy accessions to the Herbarium during the year were as follows: By gift or in exchange,—from Mr. J. Donnell Smith of Baltimore, 875 carefully identified plants from Guatemala, Costa Rica, and Nicaragua, a large addition to the already notable suite of Central American specimens from the same source; from Professor C. V. Piper, 604 plants of Washington State; from Professor Franz Buchenau of Bremen, 109 of the rarer plants of Europe from the Baenitz Collection; from Mr. F. V. Coville and Dr. J. N. Rose of the United States National Museum, 399 plants of Mexico, 64 plants from the hitherto little known flora of the Tres

Marias Islands; from Mr. David Prain, Director of the Royal Botanical Garden at Sibpur, 96 East Indian orchids; from the New York Botanical Garden, 561 plants of Montana and Idaho; from Professor F. Lamson Scribner, 621 species of American grasses; from Professor R. von Wettstein, Director of the Botanical Museum of Vienna, 897 plants in continuation of the valuable *Exsiccati florae Austro-hungaricae* begun by the late Professor A. Kerner von Marilaun; from Mr. Robert M. Horner, 492 plants of Washington State; from Mr. E. F. Paoletti, 204 plants of the Province of Cuneo, Italy; from Mr. E. Heller of the Leland Stanford Jr. exploring expedition, 852 plants of the Galapagos Islands, and 29 plants of Cocos Island — a notable collection, secured by Messrs. Snodgrass and Heller, now being determined at the Gray Herbarium; from Miss M. A. Day, 1260 plants of Nantucket; from Mrs. A. R. Northrop, 294 plants collected by the late J. I. Northrop, Esq. and Mrs. Northrop in the Bahama Islands and containing many rare and some new species. The following are the chief collections acquired by purchase: From Mr. A. Tonduz, 105 plants of Costa Rica; from Mr. B. F. Bush, 836 plants of Southern Missouri and Texas; from Professor E. Koehne of Berlin, the third fascicle (135 species) of his critical Herbarium *Dendrologium*; from Mr. A. A. Heller, 204 plants of Porto Rico; from Messrs. Baker, Tracey, and Earle, 1162 plants of Southern Colorado and New Mexico; from Professor I. Urban of the Royal Botanical Museum at Berlin, 964 plants of Porto Rico; from Professor A. Nelson, 768 plants of the Yellowstone Park; from Mr. J. D. Sornborger, 687 plants of Labrador; from Professor H. Pittier, 150 plants of Costa Rica; from Mr. A. H. Curtiss, 221 plants of Florida. From all sources, 13,827 specimens of plants have been received during the year.

The sorting and organization of this large mass of valuable material, as well as of the unmounted accumulations of past years, has progressed so satisfactorily that, with the present improved methods of mounting, it has been possible to add to the organized portion of the Herbarium 14,497 sheets of mounted specimens, this being again the largest recorded annual increment.

During the year 90 volumes and 259 pamphlets have been added to the Library of the Herbarium.

The Herbarium began the year with a deficit of \$1,081, and as, even with the recently increased endowment, its income falls much below the pressing needs of the establishment, the question of financial maintenance has presented no small difficulty. Early in

the year the Visiting Committee, to whose energy and generosity the Herbarium was already much indebted, issued an appeal for ten dollar subscriptions. This appeal met with favorable responses from more than 160 persons; and as the members of the Committee and some other patrons gave in much larger sums the current expenses were met and the indebtedness of the Herbarium entirely removed.* A generous patron, who, however, wishes to be anonymous, has also contributed the sum of \$500 to the Herbarium Fund.

During the year the members of the Herbarium staff have published 31 scientific papers, of which the more important are as follows:—

Some plants from the northwestern shore of Hudson Bay; by M. L. FERNALD, *Ottawa Naturalist*, xiii, 147.

Revision of the North American species of *Tephrosia*; by B. L. ROBINSON, *Bot. Gaz.* xxviii, 216.

Some undescribed and little known varieties of *Aster* and *Solidago*; by M. L. FERNALD, *Rhodora*, i, 187.

Plants from the eastern slope of Mt. Equinox; by M. A. DAY, *Rhodora*, i, 220.

Some northeastern species of *Scirpus*; by M. L. FERNALD, l. c. ii, 15.

Notes on *Echinacea*; by M. L. FERNALD, l. c. ii, 84.

Contributions from the Gray Herbarium, n. s., No. xviii; *Proc. Am. Acad.* xxxv, 307–342; including I. New species and varieties of Mexican plants, by J. M. GREENMAN; II. Synopses of the genera *Jaegeria* and *Russelia*, by B. L. ROBINSON; III. New Dioscoreas from Mexico, by E. B. ULINE; IV. New phaenogams, chiefly gamopetalae, from Mexico and Central America, by B. L. ROBINSON.

Contributions from the Gray Herbarium, n. s., No. xix; by M. L. FERNALD, *Proc. Am. Acad.* xxxv, 489–578; including I. A synopsis of the Mexican and Central American species of *Salvia*; II. A revision of the Mexican and Central American Solanums of the subsection *Torvaria*; III. Some undescribed Mexican phanerogams, chiefly *Labiatae* and *Solanaceae*.

B. L. ROBINSON, *Curator*.

* The trifling deficit of \$25 shown upon the Treasurer's books July 31, 1900, was more than covered by several sums previously subscribed but not received until some days after August 1st.

THE BOTANIC GARDEN.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — I have the honor, in the absence of Dr. Goodale, to present the following report on the Botanic Garden for the academic year 1899–1900.

In 1899 important alterations were made in the distribution of the plants in the greenhouses. With few exceptions these alterations have proved satisfactory not only for the healthy development of the plants, but for a better exhibition of the collections. The experiment of planting the large specimens of the Cactaceae in the open ground instead of in pots has given surprising results. The plants grow with more vigor than is usual under artificial cultivation and, therefore, approach more closely the condition of growth characteristic of their native habitats.

Mr. Cameron, the Head-Gardener, makes the following statement relative to the out-of-door garden:—

“On the night of October 1, an unusually early frost occurred which spoiled the showiness of the Garden. Plants, such as *Salvias*, *Cannas*, *Geraniums*, *Heliotrope*, etc., were all damaged.

During the winter the weather was not exceptionally cold, and for the greater part of the time the ground was not covered with snow. Such a condition of things is not so congenial to the welfare of our plants as when the ground has a good covering of snow which prevents frequent thawing and freezing. Some of the evergreen herbaceous species suffered slightly, but very few plants were lost during the winter.

The spring weather was good, but the summer was the hottest and driest for many years. Vegetation of all kinds suffered considerably during the continued drouth, although much water was used from the city supply.”

The difficulty of supplying the classes in Botany with fresh material in good condition was met last year by the construction of a series of pits and frames. These have been thoroughly tested with gratifying results. Before they were constructed the material for the class work had to be obtained from other sources at a disadvantage which was long felt by the assistants and students in the laboratories.

Radcliffe College has been furnished with plants and flowers from the Garden, and in addition, teachers of public and private schools

have received for their classes a liberal supply of material. At present the Garden is able to meet the demands of the schools without any inconvenience, so that no change seems called for in the policy adopted.

The pond near the centre of the Garden has always been too deep for the cultivation of desirable aquatic plants. Last spring it was pumped dry and partially filled in with earth obtained from excavations made for the pits and frames. The bottom was then covered with cement and a line of tile pipes laid to conduct away the waste water. The advantages gained by this work are already evident. The collection of aquatics has received many valuable specimens, including two genera and species new to the Garden, namely *Euryale ferox* and *Victoria regia*. During the summer these plants were a constant source of attraction to visitors.

The pond situated near Raymond Street was filled in several years ago, as the springs which supplied it became ineffective, and the water, in spite of all that could be done, grew unfit for use. The land occupied by the pond has been laid out for the cultivation of a collection of grasses and kindred plants which, it is hoped, will greatly enhance the value of the Garden for the use of students.

The laboratories in the new range of greenhouses are becoming more and more useful with the increase of equipment. The advanced students in Botany carry on much of their work in these laboratories, where better facilities may be had for studying plant life than at the University Museum. New benches on which to grow specimens during experimental work are in process of construction. These benches are to be made of iron, like those in the greenhouses, and will therefore be permanent as well as useful.

Besides the usual exchanges, gifts have added considerably to the collections at the Garden. Mrs. Frederick Lothrop Ames of North Easton, Mass., presented at two different times during the year plants of great value from her greenhouses. The Hon. Wm. Fawcett, B.Sc., F.L.S., Director of the Department of Public Gardens and Plantations in Jamaica, sent to the Garden a collection of filmy-ferns and several tropical economic plants. The filmy-ferns are not well represented in the Garden, as special conditions, not as yet available, are required to cultivate them successfully.

Dr. Jackson reports that during the year he has made considerable progress in the arranging and cataloguing of the fossil plant collection. The cretaceous material from Golden, Colorado, and from Kansas contains many types and specimens figured by Lesquereux. The thanks of the Museum are due to Mr. J. B. Woodworth for a

collection of fossil plants from the Triassic of Connecticut. In this collection is the specimen published as *Equisetum Meriana* (?) Brong. by the late Prof. J. S. Newberry in Monograph *U. S. Geol. Survey*, Vol. XIV, p. 86. Thanks are also due to Messrs. H. T. Burr and R. E. Burke for the specimens of fossil plants recently discovered by them in the Roxbury conglomerate. These specimens fix the age of this geological formation as either carboniferous or possibly Devonian. A description of these plants with their occurrence was published in *Proc. Boston Soc. Nat. Hist.*, Vol. 29, No. 9, 1900, pp. 179-184, plate I.

There is little new to report concerning the Botanical Museum. The Ware collection of Blaschka glass models is soon to be remounted on plaster of Paris tablets and relabelled. The beams in the exhibition rooms were painted white early in the year and afford more light for the exhibits. In room 7, some of the economic plants have been rearranged by J. B. Dandeno, A.M., according to their geographical distribution.

OAKES AMES, *Assistant Director*.

THE ARNOLD ARBORETUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit the following report on the condition and progress of the Arnold Arboretum during the year ending August 31st, 1900.

During the year the City of Boston has finished the work of construction in the Arboretum provided for under its indentures of 1882 and of 1895 with the University, with the exception of a sewer to carry off the floods of Goldsmith Brook and to lower the water-level in the meadow near the South Street entrance into the Arboretum. A contract for building this sewer has been made by the Park Commissioners of Boston and the work, which is already begun, will be finished before the end of the current year. Since 1883, when the City began to aid in the development of the Arboretum, it has spent \$79,315.85 in buying land which has been turned over to the University for the use of the Arboretum, and \$371,768.82 for Arboretum construction. With this money the City has built in the most substantial and thorough manner 3.48 miles of Telford and macadamized roadway with four brick culverts and all necessary slopes, and 5.70 miles of gravel walks; it has protected all highway-boundaries with solid stone walls where such walls did not previously exist, and it has provided the seven entrances into the Arboretum with handsome iron gates. Last year the City paid \$8,500 for maintaining these drives and walks and for police protection. With interest at four per cent. this annual expenditure represents a further contribution to the Arboretum of \$210,000 and makes the total of the City's expenditure on the Arboretum \$661,084.67.

Since 1877 the Arboretum has received from the Trustees of the Massachusetts Society for the Promotion of Agriculture grants amounting to \$10,500 and as gifts from individuals the sum of \$178,100. In this amount is included the Bradley Fund of \$20,000 of which the income can be used only for some special piece of scientific work. Of the balance \$14,500 has been added to the Arnold Endowment of \$100,000 which has been increased to \$150,000 by the accretion of interest. The remainder of the money derived from gifts, \$143,800, has been spent or will be needed during

the next year or two in the construction and development of the Arboretum. This expenditure is represented by a fire-proof building large enough to contain the scientific collections, laboratories, and administration offices of the Arboretum for many years to come, a library of seven thousand bound volumes and many pamphlets, and a large herbarium of ligneous plants. It is further represented by soil and manure purchased for the plantations and by the grading, draining, and planting of the grounds. This construction work is now finished or is already provided for, but the income of the endowment, which is now only a little more than \$7,000 and is gradually decreasing, is entirely inadequate to maintain the Arboretum or carry on its scientific and educational work.

During the year the valley north of Hemlock Hill has been graded and work has been done in lowering the bed of Goldsmith Brook and in grading the adjacent meadows. Boundary plantations in the Peter's Hill extension have been made and the preparatory work for the remaining plantations in this part of the Arboretum has been finished. The ground occupied by the Maple, Elm, and Birch groups and by the Conifers has been plowed and graded and next year this land will be permanently laid down. To facilitate easy access to all parts of the Arboretum, grass walks have been made leading through the natural woods and to the collections which are not immediately adjacent to drives. These walks follow the contour of the ground and are cheaply made and maintained; and, as the Arboretum is not much used by the public in winter, they will serve a useful purpose for many years. About two and one-half miles of these walks have been finished. The woods and plantations are in generally good condition, and in spite of two successive summers of excessive drought the young trees have made satisfactory progress.

The interchange of plants and seeds with other horticultural and botanical establishments has been continued during the year. There have been 10,104 plants and 760 packets of seeds distributed as follows: To the United States, 10,107 plants and 343 packets of seeds; to Canada, 38 packets of seeds; to Great Britain, 97 plants and 122 packets of seeds; to the continent of Europe, 197 packets of seeds; to Japan, 55 packets of seeds; to the East Indies, 3 packets of seeds; to India, 2 packets of seeds. There have been received during the year 6604 plants (including grafts and cuttings) and 324 packets of seeds.

During the year 2125 sheets of dried plants have been added to the herbarium; and the library has received by gift 685 bound volumes and 201 pamphlets.

By an arrangement made with the President of the Massachusetts Institute of Technology, students of landscape-gardening in the Institute are instructed by Mr. J. G. Jack in dendrology and arboriculture at the Arboretum. During the year two popular courses in dendrology were given by Mr. Jack with an average attendance in the autumn of twenty-seven and in the spring of thirty-four. As usual these courses were largely composed of teachers.

I take this opportunity to express again my thanks to the Trustees of the Massachusetts Society for the promotion of Agriculture for their annual grant of \$2,500, and to the members of the Visiting Committee for their assistance and support.

C. S. SARGENT, *Director.*

THE CHEMICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — At the beginning of the year Professor Sanger took charge of the course in Qualitative Analysis (Chemistry 3) and of the first course in Quantitative Analysis (Chemistry 4) ; he also offered a new course in research in the field of Applied Chemistry (Chemistry 20e) thus supplying a deficiency in our advanced instruction which the Department has long felt most keenly. A course of lectures upon Electrochemistry during the second half-year (Chemistry 7^a) was established, which included a discussion of the practical applications of modern electrochemical theories ; these lectures were given by Dr. G. N. Lewis.

The number of students in the several laboratory courses during the year and in June, 1899, was as follows :—

	October, 1899.	January 1st, 1900.	June 1st, 1900.	June 1st, 1899.
Chemistry <i>B</i>	64	60	53	60
Chemistry 1	366	342	304	263
Chemistry 3	100	93	86	101
Chemistry 4	47	43	33	28
Chemistry 5	28	26	21	13
Chemistry 6	15	15	14	10
Chemistry 9	14	13	..	..
Chemistry 10 . . . . .	..	..	13	4
Chemistry 20a	2	2	2	5
Chemistry 20b	8	7	7	9
Chemistry 20c	3	3	3	4
Chemistry 20d	4	4	4	3
Chemistry 20e	1	2	2	..
Special . . . . .	..	..	..	1
Total	652	610	542	501

The number of students in Descriptive Chemistry (Chemistry 1), which had fallen off slightly in the previous year, was larger than ever before. So great was the number of applicants that we were obliged to assign to this course thirty-one desks in the laboratory occupied by students in General Chemistry (Chemistry *B*). In 1894 we had been forced to put students in these two elementary courses in the same laboratory, but had found the plan open to such grave

objections that we adopted it once more with the greatest reluctance; even with this objectionable crowding we had but a single desk to spare. Although additional places for quantitative work had been fitted up during the summer, all desks were at once taken, and several temporary benches were afterward put into the laboratory for advanced Quantitative Analysis (Chemistry 9) in order to accommodate later applicants. The organic laboratory was crowded, and the other laboratories for advanced work were also filled.

The following investigations were made during the year under the direction of Professor Jackson: Mr. D. F. Calhane continued the study of the γ -dinitroparabrombenzol which was discovered in the previous year; the body is now thoroughly characterized, and many of the derivatives of the α -isomer have also been studied; Mr. W. Koch completed the study of the derivatives of orthobenzoquinone; Mr. K. L. Mark has investigated certain derivatives and transformations of dicyanamide; Mr. R. B. Earle has continued the study of colored substances derived from nitro compounds and investigated chiefly their behavior with hydroxylamine and aniline; Mr. G. E. Behr prepared the symmetrical triiodbenzol and established its constitution; Messrs. H. H. Greene and S. E. Williams investigated certain halogen compounds of phenanthrene, and Mr. W. P. Cohoe finished his work upon derivatives of metadibrombenzol.

Professor Sanger studied with Mr. W. P. Cohoe the action of fuming sulphuric upon silicon tetrachloride in order to discover the products formed in the reaction beside pyrosulphuryl chloride, and under his direction Mr. W. G. Waitt determined some of the analytical constants of the oil from the mesquite bean.

The following investigations were carried on under the direction of Professor Richards: Mr. B. S. Merigold brought to a conclusion his work upon the atomic weight of uranium, and showed that this constant is probably as low as 238.52; Mr. G. W. Heimrod obtained further interesting confirmation of the accuracy of the new porous cup voltameter; Mr. E. H. Archibald completed his research upon the growth of crystals, and also finished a very interesting series of experiments upon the equilibria of mercurous and mercuric salts in other electrolytes; Mr. C. A. Bigelow continued the research on transition temperatures and showed that the transition of sodic chromate is probably effected at $19^{\circ}.87$; Mr. F. Bonnet, Jr., obtained some light on the vexed question as to the difference between the green and the violet salts of chromium, and Mr. E. H. Webb began a photographic study of the changes in the crystalline structure of steel at a red heat.

Dr. Torrey began the investigation of the reduction of 1-phenyl-4-nitropyrazol, and brought to a conclusion the study of certain products formed by the action of potassic nitrite upon mucobromic acid which he has carried on with Mr. O. F. Black.

Professor Hill studied certain bodies of the aromatic series which were formed by the condensation of nitromalonic aldehyde with ketones and ketone-acids. The following work was done under his direction: Mr. A. S. Wheeler completed his investigation of the dihydrofurfuran dicarboxylic acids which are formed by the reduction of dehydromucic acid and showed that the two acids previously described are stereoisomeric; while neither acid is optically active, one of them can be resolved into active components; he also prepared a third isomer which could also be separated into active forms; Mr. W. J. Hale studied the oximes of nitromalonic aldehyde, and also prepared 2-phenyl-4-nitrophenol by the condensation of nitromalonic aldehyde with methylbenzyl ketone and studied many of its derivatives.

The following papers were published during the year: —

1. The Occlusion of Hydrogen by Cobalt and other Metals. By G. P. BAXTER. *Am. Chem. Journ.*, xxii, 851.
2. On the Constitution of α -Dibromdinitrobenzol—Paradibromortho-dinitrobenzol. By D. F. CALHANE and P. M. WHEELER. *Am. Chem. Journ.*, xxii, 449.
3. The Electrochemical Equivalents of Copper and Silver. By T. W. RICHARDS, E. COLLINS, and G. HEIMROD. *Proc. Am. Acad.*, xxxv, 121; *Zeitschr. phys. Chem.*, xxxii, 321.
4. Ferrous Iodide. By C. L. JACKSON and I. H. DERBY. *Proc. Am. Acad.*, xxxv, 215; *Am. Chem. Journ.*, xxiv, 15.
5. Note on the Constitution of Diparabrombenzylcyanamide. By C. L. JACKSON and R. W. FULLER. *Proc. Am. Acad.*, xxxv, 231; *Am. Chem. Journ.*, xxiii, 494.
6. A Revision of the Atomic Weight of Iron. By T. W. RICHARDS and G. P. BAXTER. *Proc. Am. Acad.*, xxxv, 251; *Zeitschr. anorg. Chem.*, xxiii, 245.
7. Certain Colored Substances derived from Nitro Compounds. By C. L. JACKSON and F. H. GAZZOLO. *Proc. Am. Acad.*, xxxv, 263; *Am. Chem. Journ.*, xxiii, 876.
8. Note on a Method of Standardizing Weights. By T. W. RICHARDS. *Am. Chem. Soc.*, xii, 144. *Zeitschr. phys. Chem.*, xxxiii, 605.
9. The relation of the Taste of Acids to their Degree of Dissociation. (Second paper). By T. W. RICHARDS. *Journ. Phys. Chem.*, iv, 207.
10. The Driving Tendency of Physicochemical Reaction and its Temperature Coefficient. By T. W. RICHARDS. *Proc. Am. Acad.*, xxxv, 469; *Journ. Phys. Chem.*, iv, 383.

11. The Determination of Iron in the Presence of Sulphuric Acid; a Note on Solid Solutions. By T. W. RICHARDS. *Proc. Amer. Acad.*, xxxv, 375. *Zeitschr. anorg. Chem.*, xxiii, 383.

12. Notiz über 2, 6-Diphenyl-4-nitrophenol und 2-Phenyl-4-nitro-phenol, By H. B. Hill. *Ber. deutsch. Chem. Ges.*, xxxiii, 1241.

13. A Table of Atomic Weights. By T. W. RICHARDS. *Proc. Am. Acad.*, xxxv, 621.

14. Certain Derivatives of Metadibromdinitrobenzol. By C. L. JACKSON, and W. P. COHOE. *Proc. Am. Acad.*, xxxvi, 75.

15. On Nitromalonic Aldehyde; (Second paper). By H. B. HILL. On the Condensation of Nitromalonic Aldehyde with certain Ketones and Ketone-acids. By C. A. SOCH and G. OENSLAGER. *Am. Chem. Journ.*, xxiv, 1.

16. International Atomic Weights. By T. W. RICHARDS. *Proc. Am. Acad.*, xxxvi, 171; *Am. Chem. Journ.* xxiv, 377.

During the Summer ten additional desks and a large table for electrolytic work and for gas analysis were put into the small room on the upper floor, one half of which had been fitted up for advanced work in Quantitative Analysis in the previous year.

In the course of the past five years the capacity of Boylston Hall has greatly been increased either by the fitting up of new laboratories or by the remodelling of old rooms; but with this last small addition to the number of working desks the available space in the present building is exhausted. In these changes room really needed for general purposes has been sacrificed in order to give increased accommodation for individual students. So rapidly have our numbers increased, however, that we are no better able to provide proper accommodations for our students than we were five years ago. In 1894, with 442 students applying for desks at the beginning of the year, we had 444 working places; in 1899 we had 641 places for 640 applicants; in 1894 we had about 3500 square feet of floor space, which was either unused or which could be spared for laboratory purposes, while at present we have absolutely no room for further expansion. Our numbers can hardly increase in the future as rapidly as they have done in the past; but it is plain that some steps must be taken at once to enable us to meet the demands which will inevitably be made upon us within the next few years.

HENRY B. HILL, *Director.*

THE JEFFERSON PHYSICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The course of instruction in Physics now embraces five laboratory electives; and there is also a descriptive course for those who desire only a general knowledge of the phenomena of physical science. Every student in Harvard University has an opportunity of obtaining this knowledge, even if he does not desire the more accurate information which can be gained by laboratory work.

The number of students enrolled in the department during 1899–1900 was 355. The number for 1900–01 is 470. There are now six graduate students who are engaged in researches; this is a large number in view of the difficulty of physical investigation.

There have been many researches in progress during the past year, Mr. Theodore Lyman has finished the first portion of his work in spectrum analysis and it will be shortly published under the title of “Spurious Spectra obtained with the Rowland gratings.” This work has an important bearing on the subject of the occurrence of spectral lines in doublets and triplets through the spectra of various metals. Mr. McElfresh, under the direction of Professor Hall, has been studying the occlusion of gases by nickel. Mr. H. H. Brown continued his work on electrical capacity. Mr. G. W. Pierce published a paper in the *American Journal of Science* and also in the *London Philosophical Magazine* on the measurement of very short electrical waves.

Professor Sabine published a notable portion of his highly important researches on the acoustical properties of auditoriums. Professor Peirce was occupied with his investigations in the subject of heat.

The Director studied the effect of powerful discharges of electricity on the spectra of various gases. It was found that hydrogen, nitrogen, and rarified air gave substantially the same spectrum under the conditions, although great care was taken in drying and purifying these gases. Under the effect of such powerful discharges aqueous vapor is released from the walls of the spectrum tubes. It was concluded from this investigation that oxygen exists in the sun's atmosphere. The rôle that aqueous vapor plays in the X-ray phenomenon was also studied. Various substances are placed in the

X-ray tubes, now used by surgeons, for the purpose of modifying the activity of these tubes. My work leads me to the conclusion that these substances act merely through their water of crystallization. It seems probable that by varying the conditions of strength of the electrical discharges, and the condition of aqueous vapor, that photographs of the tendons and muscles can be secured together with photographs of the human skeleton. Papers containing the results of these investigations were published in the *American Journal of Science* and also in *London Nature*. Since the attention of physicians is now directed to the curative effect of the ultra violet rays in certain forms of skin diseases a research was begun upon the relative activity of these rays in the vapor of different metals. The method of study is an entirely new one and is made possible by the aid of the large battery of the laboratory. An investigation was also made in the subject of magnetism on the question what degree of alternating current will reduce iron to the state of copper as far as magnetic condition is concerned. These two researches are still in progress. The subject of the importance of the earth connections in wireless telegraphy was studied. It was found that an electrical effect spreads from one earth connection to the other over the surface of the earth. The remarkable fact that the interposition of hills does not interfere with the transmission of messages is thus explained, when the sending and receiving stations are at great distances from each other.

The Director thus calls attention to the large amount of original work which has been done in addition to the routine work of teaching. During the year an anonymous gift of \$250 has been received for physical investigation. The Joseph Lovering Fund for research yields about \$370 a year. These sums together with the services of an experienced mechanician constitute the chief aid to the scientific work of the laboratory. The department needs a large fund for research.

JOHN TROWBRIDGE, *Director*.

THE PSYCHOLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—The work of the Psychological Laboratory during the last year has moved on in the same directions as indicated in my last reports. The Laboratory furnished, firstly, new material for the demonstrations in my elementary psychology course which was taken by 326 students, and for the experiments in Dr. MacDougall's experimental training course, while the advanced course of Dr. MacDougall, and my psychological seminary were essentially theoretical and thus without direct relation to the Laboratory.

The chief work, however, was again the original research, carried on by eighteen advanced students and the instructors. The following investigations yielded interesting results. As the psychological experiments always demand the coöperation of several persons, every student was engaged in at least four researches; the name given therefore indicates merely the student who had the responsibility for the conduct of the investigation, while from two to eight other students worked in it as the subjects to be experimented on.

In the field of sensations, Mr. G. S. Amsden studied some complicated color illusions which seem to throw new light on the theory of color sensation. Mr. H. A. George inquired into the nature of touch sensations with especial reference to their fusion; it was a successful first step in carrying the conception of fusion,—the fundamental principle in the modern doctrine of tone sensations,—from the acoustical region to the regions of other sensations. In the field of associations, Mr. H. A. Peterson made a careful study of the effect of different modes of presentation on immediate reproduction and later recall; he studied especially the pedagogically important differences between visual, aural, visual-aural, and enunciatory memory and the difference between memory for words, for perceived objects and for activities. Mr. C. S. Moore began to work up the relations between memory and attention. The influence of volitional efforts on the memory-picture and on imaginative ideas was the subject of Mr. J. H. Farley's work, who examined especially the time necessary under different conditions to inhibit various ideas.

In the field of space perception, Mr. C. H. Rieber continued his elaborate investigation—accepted in the mean time as his doctor's

thesis — into the subjective conditions for the impression of tactual distances, demonstrating the similarities and the differences between the visual and the tactual perception of space. Another interesting study on space was that of Mr. M. L. Ashley, who inquired into our knowledge of the directions of space and its dependence upon bodily conditions. Two of our investigations referred to the psychology of judgment. Mr. C. T. Burnett studied some subconscious motives of judgment, trying to find how far a judgment consciously aiming in one direction can be changed by conditions lying in another direction of whose influence the subject remains unconscious. Mr. T. H. Haines, in a very elaborate and painstaking piece of research which has not yet been finished, was engaged in the examination of complication of judgments. The problem is to determine how far several judgments, starting from the same object, can be formed together, how far they coincide or overlap or succeed each other.

A favorite subject of our laboratory has always been the nature of the aesthetical processes. Three researches belonged to this group. Dr. R. MacDougall studied the aesthetical rhythm of sounds with regard to the relation between the intensity of the elements and their time intervals. Mr. R. H. Stetson specialized in the relations of rhythm and rhyme, with especial reference to the position of the rhyme and the character of the verse pauses. Finally Miss E. Puffer, the assistant of the psychological laboratory of Radcliffe College, brought to an end her valuable study of symmetry in artistic composition. In the field of volition and movement Mr. B. A. Lenfest, the principal of the Manual Training School in Waltham, Mass., carried on, with a view to manual training, a most patient work on the time relation of successive impulses, for different types of movements and under different conditions, while Dr. J. H. Woods studied the mutual interference of several coinciding volitional impulses.

I mention finally the research done in our little department of animal psychology whose beginning I described in my report of last year. The work stands under the special supervision of the second assistant of the laboratory, Mr. R. M. Yerkes. Mr. Yerkes himself began an investigation, to be continued for several years, on the reaction time of lower and higher animals under different conditions and different psychical stimuli; so far he has given his attention especially to the frog. Mr. F. D. Bosworth worked on the training of new habits in the crayfish and Mr. H. Linenthal examined certain symptoms of memory in the newt. I emphasize again that all our animal experiments carried on in the past and planned for the future are without any pain, almost without discomfort, for the animals to

be used. All of these experiments gave results which will be published as soon as possible.

The equipment of the laboratory has not been essentially altered, but many smaller pieces of apparatus have been added to our collection of instruments and several technical improvements have been made for the carrying on of the researches. But all the improvements cannot counterbalance the growing difficulty of finding sufficient room in the laboratory for our work. As the number of advanced students, prepared to do original research work, is steadily increasing, corresponding to the steady growth of the psychological seminary which had twenty members last year, the congestion in the laboratory becomes more and more disadvantageous. This is felt the more as the central room of the laboratory has become the working place for three philosophical seminars, as the four assistants of the large elementary psychology course have had to meet the individual students in the laboratory rooms and as the reading room of the laboratory has become the chief library room for the advanced students of the whole philosophical division. The erection of a new building for the philosophical division with ample room for seminars and library and with a sufficient number of rooms for a laboratory, far from the noise of Harvard Square, is thus a need which we all feel more strongly from year to year.

HUGO MÜNSTERBERG,
Professor of Psychology.

THE OBSERVATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — The work of the Observatory during the nineteenth century will be completed at the time of publication of this report. This, therefore, seems to be a suitable occasion for describing the present needs of the institution and the condition of those portions of its work which are now unfinished.

In my last report, it was shown that the annual income of the Observatory, amounting to nearly \$50,000, places it, in this respect, on an equal footing with the principal observatories of the world. Its work, however, can be maintained only if all the income is devoted to current expenses, and this becomes every year more difficult, owing to the continued diminution in the rate of interest on invested property. The additional sum of \$200,000 would be required to secure permanently the income of six years ago. When a comparison is made with the buildings and instruments of other observatories the result is still less favorable. The estimated value of the buildings at Cambridge is \$52,000, at Arequipa \$12,000; of the instruments at Cambridge \$20,000, and at Arequipa \$50,000. About half a million dollars have been expended on the buildings and instruments of the Lick Observatory, and an equal sum at the Yerkes Observatory. Great additions have been made within the last few years to buildings and instruments at all the principal national observatories of the world. The main building at Cambridge is of wood, and is more than half a century old. It contains one of the finest astronomical libraries in the world, and this is in constant danger of destruction by fire. To save unnecessary expense, the new buildings erected here are as plain as possible, and the lack of architectural effect should be ascribed to this reason, and not to the taste of the Director. Even allowing for the recent increased cost of building materials, \$100,000 would supply our present wants, by furnishing plain buildings of modern construction. One of the greatest needs of astronomy at the present time is a large telescope mounted in the southern hemisphere. Nearly all of the largest telescopes of the world are north of latitude $+30^{\circ}$, and only one or two of them are located where the condition of the air permits work of the highest grade to be done. In many departments

of astronomy, no work of this character has been undertaken on any of the extreme southern stars. The cost of a telescope of the largest size would be about \$100,000, and an equal sum would be required for a building and the incidental expenses, which would prevent its curtailing the work of the other departments of the Observatory. It will be seen, therefore, that the sum of half a million dollars is required to enable this Observatory to maintain its place among the greatest observatories in the world. With this sum a large amount of work could be carried on permanently under favorable conditions. A comparison with the amount of work which could be accomplished by a similar expenditure on a new observatory is perhaps best illustrated by the Henry Draper Memorial. The saving in executive management, and in current expenses, is so great that it is believed that two or three times as much work could be accomplished by the first plan, as by the second. It is hoped that a portion of this plan can be carried out, if not the whole. It is very desirable that the names of the friends of the Observatory should be perpetuated in connection with new buildings and instruments. Lasting memorials would thus be furnished.

It is always difficult to complete large pieces of work promptly, and the work of observation is often unduly large as compared with the means available for reduction and publication. The recent action of the Corporation in providing for the compulsory retirement of its officers on account of age, renders it especially important that unfinished work should be completed rapidly. It is therefore well to place it on record and, if possible, provide for its early publication. Any investigation may be completed much better and more economically by those who have undertaken it, than by others, and much valuable work has been lost because its publication has been needlessly delayed. Rapid progress could be made with most of the unfinished work described below, by the employment of inexpensive computers and copyists, under the direction of those by whom the work has been, so far, planned. It must, therefore, be pointed out that a small expenditure at the present time may save a much larger expenditure in the future, or even preserve valuable work, which by delay, may be lost entirely.

The principal unpublished investigations are enumerated below, with a statement of the space each will occupy when published in the *Annals*.

Photometric observations of Jupiter's satellites while undergoing eclipse have been made with great regularity since June 1878. The total number is 702. The first reduction has been made, and, with

little delay, copy could be sent to the printer. It will occupy one volume of the *Annals*.

Seventeen circumpolar variable stars of long period, observed by Argelander's method about once a month, from 1890 to 1899. In print, and will be distributed in a few weeks. Half a volume. [XXXVII, Part I.]

Sixty variable stars of long period similarly observed since 1890, but less frequently. Not yet reduced. One volume.

Photometric observations of variable stars and other objects, with the 15-inch telescope. Nearly ready for publication, and will be sent to the printer shortly. Half a volume.

Southern zone containing 7,959 stars, from declination $-9^{\circ} 50'$ to $-14^{\circ} 10'$, observed with the meridian circle. Observations completed. The reductions if continued at the present rate, will be finished in three or four years. The journal will occupy two volumes, the standard stars and catalogue, one volume, the discussion and comparison with other catalogues, one volume. Total, four volumes.

Fundamental stars observed with the meridian circle during the years 1879-1882. Reduction in progress. One volume.

Stars of the magnitude 7.5 and brighter, and north of declination -40° , observed with the meridian photometer during the years 1895-1898. Reduction completed, and about one-half printed. One volume. [XLV.]

Stars of the magnitude 7.0 and brighter, south of declination -30° , observed with the meridian photometer in 1899. Partially reduced. One volume.

Constants used in reduction of observations made with the meridian photometer during the years 1891-1898. About 473,000 photometric settings are discussed in this work. Half a volume. [XLIV, Part II.]

Observations of variable stars with the meridian photometer, and discussion of results. Observations and first reduction completed. One volume.

Observations with the 12-inch Horizontal Telescope, of 9,222 *Durchmusterung* stars, in zones $10'$ wide, and 10° apart in declination. Observations completed and reduction well advanced. One volume.

Spectra of Bright Southern Stars. Completed and sent to the printer. Half a volume. [XXVIII, Part II.]

Peculiar Stellar Spectra, including all the novae, gaseous nebulae, variable stars, fourth and fifth type stars discovered in the investigations of the Henry Draper Memorial. One volume.

Measures of variable stars of long period, discovered photographically. There are about 150 of these stars, of which 55 have so far been measured and reduced on about 100 plates each. One volume.

Variable stars in ω Centauri. 30,000 observations of 128 variables. Nearly ready for the printer. One volume. [XXXVIII.]

Variable stars in Messier 5, and in other clusters. 79 stars in Messier 5 have been measured on 74 plates. One volume.

Photographic brightness of 40,000 standard stars of about the tenth magnitude, one in each square degree. About half have been selected and measured. Two volumes.

Photographic magnitudes of 6,590 northern stars. All have been measured on one plate, and about 4,000 on two plates. Half a volume.

Second Draper Catalogue, giving the spectra of about 30,000 stars of the eighth magnitude and brighter, from the North to the South Pole. About one-half have been measured, on one plate. Two volumes.

History of Boyden Expeditions. One volume.

Observations of Mars and Jupiter, at Arequipa. One volume.

Meteorological Observations in Peru. 1891-1895. Reductions nearly completed. Half a volume. [XXXIX, Part II.]

Meteorological Observations in Peru. 1896-1900. One volume.

Observations made at the Blue Hill Meteorological Observatory in 1899 and 1900. One volume.

Measures of positions of 500 stars within half a degree of the North Pole. Positions of variables in clusters, and of Eros in 1893, 1894, and 1896. Tables nearly ready for the printer. Half a volume.

Uranometry of about 5,600 stars of the magnitude 6.0 and brighter. Observations completed and reduction in progress. Half a volume.

Bibliography of variable stars. 15,000 cards written. One volume.

The researches above enumerated would fill twenty-eight volumes, or about two-thirds as many as have been published during the half-century of the existence of the Observatory. Many of these volumes still involve a large amount of work, but about half of them could be issued promptly, with a moderate expenditure for additional computers. The importance of such an expenditure is obvious.

OBSERVATORY INSTRUMENTS.

East Equatorial. — The observations with this instrument have been made by Professor O. C. Wendell, and have been of the same general character as in previous years. Twenty-four thousand photometric light comparisons have been made, principally with the polarizing photometer with achromatic prisms, described in the annual report for the year ending September 30, 1895. With this instrument, 3,216 photometric comparisons were made of τ Monocerotis, 1,548 of the short period variable, $+42^{\circ} 3338$, 1,584 of ζ Herculis, 1,056 of υ Cephei, 896 of the Algol variable, $+45^{\circ} 3062$, discovered by Mme. Ceraski, 800 of χ Cygni, 784 of R Ursae Minoris, 592 of δ Herculis, 576 of υ Coronae, 480 of λ Tauri, 400 of S Monocerotis, 384 of Y Bootis, 386 of R Camelopardali, 304 of υ Ophiuchi, 288 of T Persei, 208 of Y Cygni, 208 of T Cassiopeiae, 160 of ν Delphini, 160 of υ Geminorum, and 112 of SS Cygni. In addition to the above, 1,792 comparisons were made of α Ceti, 848 of γ Lyrae, 160 of υ Camelopardali, and 96 of Nova Aurigae, with a second photometer adapted to the comparison of stars too near together to be measured with the first instrument. The same instrument has been used in the photometric measurement of Jupiter's satellites while undergoing eclipse. 18 eclipses have been observed, making the total number 702. Iapetus, the outer satellite of Saturn, was measured on 15 nights, to determine its variation in light, and Titan, also, on 15 nights. The number of comparisons was 464 of each. The light of the planet Eros was determined photometrically on five nights, the number of settings being 224. The systematic observation of variable stars of long period throughout all their ranges, and the reduction of the results to the scale of the meridian photometer, has been continued. A few estimates have been made by the method of Argelander, generally when the stars were too faint to be observed with small instruments.

Similar observations of variables and comparison stars have been made with the West Equatorial. With it, 444 estimates of variables have been made by Mr. Reed, and 905 by Miss Cannon. Mr. Reed has also made 349 estimates of comparison stars for variables. The variable star, SS Cygni, discovered photographically at this observatory, has been observed through several maxima by Mr. Tolson.

Meridian Circle. — The ruled glass plate by means of which transits have been observed and declinations determined for the

last ten years was removed in April, 1900. A set of spider lines has been inserted instead of it, and the declination micrometer originally forming part of the instrument, but not before employed in observations with it, has been replaced. The object of the change is to allow a sufficient number of observations to be made with the spider lines and micrometer to detect any considerable systematic differences which may exist between the results obtained with the glass plate, and with the customary form of apparatus for transits. It is expected at present that these observations will be made during the coming year. Means have been provided for the electric illumination of the graduations of the declination micrometer, and when required, of the spider lines themselves.

The work of the meridian circle during the year has been confined to determinations of clock error, and to the determination of instrumental constants, particularly the intervals of the spider lines and the value of a revolution of the micrometer screw. For these last purposes, 125 stars have been observed on 30 dates.

The reduction of the observations made by the late Professor Rogers during the years 1879–1883 has been continued by Miss S. C. Bond under the supervision of Miss Anna Winlock. During the year, the constants necessary for computing reductions from mean to apparent place have been checked, and the preparation of ephemerides for stars not in the almanac has been begun, as well as the derivation of similar reductions from the almanac for other stars. The fractional parts of days corresponding to the observations have been computed for the ledger of observations.

The work done on the reductions of the observations of stars in the zone $-9^{\circ} 50'$ to $-14^{\circ} 10'$ during the years 1888–1892, continues to be confined to the examination of cases of discordance, in order to detect errors of computation. The part of the catalogue examined during the year is that from $20^{\text{h}} 0^{\text{m}}$ to $1^{\text{h}} 0^{\text{m}}$.

The condition of the reductions of the zone observations made during the years 1895–1898, is as follows:—The reduction of the fundamental stars, and the determination of the values of $\Delta T + m$, and of the polar point, are nearly complete in two computations. The preliminary reduction of the zone stars has reached the point at which these constants can be applied. The computation of the precessions and secular variations for 1900 has been made for about one third of the stars originally intended for observation. The stars belonging to the zone, which occur also in Bessel's zones, have been reduced from his observations to 1825.0 by means of the tables and errata given in later publications of the Königsberg

Observatory. A similar work has been begun for the stars found also in Lalande's *Histoire Céleste*, and has been carried through about six hours of right ascension.

12-inch Meridian Photometer.—With this instrument, 79,024 settings have been made by the Director on 140 nights. The first large piece of work, the observation of all the stars contained in the *Durchmusterung*, in zones 10' wide and 10° apart, is substantially completed. The total number of stars is 9,233, of which 3,038 are contained in Volume XXIV, and the others are fainter than the ninth magnitude. All have been observed on three nights except a few which culminate early in the summer and which escaped observation owing to the absence of the Director in Europe. On the other hand, the weather in August, 1900, proved unusually favorable, and on the 39 nights following July 27, 17,824 settings were obtained on 29 nights. Good progress has been made in the reductions, which are purely differential and the observations are reduced to the scale of Volume XXIV by means of the large number of stars common to that work.

Meridian Photometer.—The observations of the stars south of declination -30° , of the magnitude 7.0 and brighter, were completed early in December at Arequipa. 44 series were taken, including 13,244 settings. The instrument was then sent to Cambridge, mounted, and electric lights substituted for gas. A catalogue of standard stars, one in each 10° square, has been prepared, and 16 series including 6,424 settings have been made by Professor Bailey. The total number of settings, including those made with the first meridian photometer is 999,864. Of these, 94,476 are published in Vol. XIV, 267,092 in Vols. XXIII and XXIV, 98,744 in Vol. XXXIV, 473,216 in Vols. XLIV and XLV, and 65,840 relate to the work of the last two years. Of these observations, 29,204 have been made by Professor Searle, 174,976 by Professor Bailey, 122,300 by Professor Wendell, and 672,888 by the Director.

HENRY DRAPER MEMORIAL.

The number of photographs taken with the 11-inch Draper telescope is 689, making 12,872 in all with this instrument; with the 8-inch Draper telescope, 2,187, making the total number 25,890. The examination by Mrs. Fleming, of the spectra contained on these plates, and of those taken with the Bruce and Bache telescopes, has led to the discovery of fourteen new variable stars, ten of which were detected from the presence of bright hydrogen lines in their spectra.

Four stars have been found to have spectra of the fourth type, four to have spectra of the fifth type, one star to have a spectrum in which the hydrogen line $H\beta$ is bright, three in which the spectra are peculiar, and six gaseous nebulae. Five variable stars have been discovered by Miss Wells, and one by Mr. H. R. Colson. Two variable stars were found by the Director by superposing a negative upon a contact print from a second negative taken on a different date. A new star was found in the constellation Aquila, by Mrs. Fleming, making the sixth Nova found from the examination of these photographs. From the detailed study of the spectra of bright southern stars, Miss Cannon has found that the line $H\beta$ is bright in A. G. C. 8991, and that this line is variable in the two stars A. G. C. 19787, γ Centauri, and A. G. C. 20878, κ^2 Apodis.

Numerous experiments have been made in determining the photographic magnitude of stars by the measurement of images out of focus. A comparison is thus made of surfaces instead of points. It appears that these stars can be measured at the rate of five a minute, with a probable error of about a tenth of a magnitude. About 14,000 measures have been made by Mrs. Fleming in this way. A study is being made of the close polar stars to determine the nature of the systematic errors.

Under the direction of Mr. King, charts are now taken regularly with the 8-inch and 11-inch Draper telescopes, without following, by varying the rate of the clock and the position of the polar axis. A small telescope, attached rigidly to the base of the 11-inch telescope, and directed toward two distant scales placed at right angles to each other, permits the axis to be set in any desired position, rapidly and accurately. A photograph of the planet Eros was obtained on July 28, 1900, with the 8-inch Draper telescope, in which the stars appeared as trails and the image of Eros was sensibly circular although the exposure was 153". Numerous charts have been taken for the detection of asteroids not recently observed. The occultation of 8 stars, and the immersion and emersion of Saturn have been observed photographically. An artificial star serves to determine the times of exposure, even when some of the images have been obscured by clouds. Photographs have also been obtained of 10 eclipses of Jupiter's satellites.

BOYDEN DEPARTMENT.

The sky at Arequipa, during the latter part of 1899 proved to be exceptionally clear. It did not, therefore, become necessary to remove the meridian photometer to the Desert of Atacama, Chile,

where a clear sky can be found during the cloudy season at Arequipa. On the completion of his work with that instrument, Professor Bailey returned to Cambridge, leaving the station in charge of Mr. H. C. Bailey.

Much delay has been experienced in the transmission of the photographic plates to Peru, and in their return to Cambridge, amounting, in some instances to five or six months. This was partly due to the prevalence of yellow fever along the West Coast of South America, resulting in frequent quarantine and the consequent delays. Accordingly, plates taken in Arequipa last April have not yet been received, and at one time last summer the supply of plates at Arequipa was nearly exhausted. Owing to the climate, it is not considered safe to keep a large number of plates on hand there. Hitherto our shipments have been sent by way of the Isthmus of Panama. On account of the large breakage, resulting apparently from the transshipments which were necessary, several cases were sent by way of the Straits of Magellan. The service, however, is so irregular, and the delays so great, that this plan has been, for the present, abandoned.

The number of photographs taken with the 13-inch Boyden telescope is 201, making 10,214 in all, and 2,054 with the 8-inch Bache telescope, making 26,339 in all. The total number of photographs taken this year at the Arequipa Station is 3,830. 358 visual observations of 48 southern variable stars have been made, by Argelander's method, by Mr. Frost, also 320 observations of the intervals between the comparison stars of 43 of these variables. The systematic examination of all stars south of declination -30° , between the magnitudes 6.3 and 7.0, inclusive, for the detection of new double stars, has been continued by Mr. H. C. Bailey. 541 stars, between 6^{h} and 12^{h} in right ascension, have been examined, leaving 450, between 2^{h} and 10^{h} , to complete the work.

Meteorological observing stations have been maintained during the year at Mollendo (altitude 100 ft.), La Joya (4,150), Arequipa (8,060), Alto de los Huesos (13,300), Mt. Blanc (15,600), El Misti (19,200), Vincocaya (14,600), and Puno (12,500). Great difficulty has been found in carrying on the observations at the lofty mountain stations. Whenever possible, all the stations have been visited once a month by a member of the staff of the Arequipa Station, and the self-recording and other instruments compared with various standard instruments, including a mercurial barometer and a psychrometer. Instruments designed and constructed by Sr. Muñiz, for recording automatically the velocity and direction of

the wind, have been placed at all the stations, except those already provided with anemometers. The meteorograph which failed to give satisfactory results at the summit of El Misti has been placed at the Mt. Blanc Station, and has given records for about one half of the time. The observations at these different stations have now been continued in many cases for eight or ten years. At such stations, where from the necessities of the case, the observers are generally men of limited education and experience, observations of the greatest accuracy cannot be expected, except by maintaining trained observers at greatly increased expense. It is believed that the personal observations which have been secured, and the results of the records of the self-registering instruments, will furnish valuable information to meteorologists concerning a region about which little was previously known. Taking into consideration the striking uniformity of conditions which prevail in different years in this region, it is probable that additional observations would not greatly increase our knowledge. It has been decided, therefore, to suspend, at the end of the year 1900, the meteorological observations of all the stations, except those at Arequipa.

THE BRUCE PHOTOGRAPHIC TELESCOPE.

The Bruce telescope has remained, during the year, under the special care of Dr. Stewart. Work has generally been carried on with this instrument, however, during the last part of the night, by Mr. W. B. Clymer or Mr. R. H. Frost. During the year, 760 plates have been taken, making 4,767 in all. Many photographs of the planets and other special objects have been made by Dr. Stewart. From an examination of 319 plates he has found, in addition to those already announced, 198 new faint nebulae. On these plates were also noted 92 asteroid trails and 2 meteor trails. On one photograph, no less than 7 trails of asteroids are visible. Last spring, a successful attempt was made to obtain photographs of the planet Eros when it was too faint to be observed in other ways. An eyepiece was connected with the photographic plate by means of a micrometer screw, and the axis of the latter was placed parallel to the motion of Eros. A star was followed by means of the eyepiece, while a motion equal to that of Eros was given to the plate by means of the screw. Three excellent plates were thus obtained, on April 28, 30, and 31, 1900, in which the stars appeared as trails and Eros as a circular image. These observations preceded those taken elsewhere, by one month. A long series of photographs of the planet Saturn was taken, to determine if possible the orbit of the

satellite, Phoebe. From an examination made in Arequipa the existence of this object has not been confirmed, and the plates have not yet reached Cambridge. A careful examination of them will be made here.

BLUE HILL OBSERVATORY.

The work of the Observatory has been carried on, as heretofore, by three assistants employed and directed by Mr. Rotch. Apart from the routine observations, the chief work has been the continuation of the exploration of the air by means of kites. It is interesting to note that this method of lifting self-recording instruments into the free air, which originated at Blue Hill in 1894, is now being extensively employed on the Continent of Europe. During the year, twenty-two kite-flights were made, the average height of the meteorograph above the sea-level being 8,973 feet, and the greatest height 15,800 feet, or about the altitude of Mt. Blanc. The summit of Blue Hill, from which the kites are flown, is 630 feet above the sea. Studies by Mr. Clayton of cyclonic and anti-cyclonic phenomena, from observations made with kites, have been published in two Bulletins. The meteorological phenomena attending the total Solar Eclipse of May 28, 1900, were observed by the Blue Hill and coöperating observers at several places, and the results will be published shortly.

MISCELLANEOUS.

Library.—The Library of the Observatory has been increased during this year by the addition of 281 volumes and 1,251 pamphlets. The total numbers of volumes and pamphlets in the Library on October 1, 1900, were 9,716, and 14,949, respectively. 102 volumes and 52 pamphlets have been deposited in the Harvard College Library. Especial efforts are being made to render the meteorological, as well as the astronomical collection of publications here, and at Arequipa, as complete as possible. Owing to the number of buildings connected with the Observatory, duplicates of the more important publications are in constant use. Every year the need of more space for books, and of modern stacks is becoming more urgent.

Telegraphic Announcements.—During the last year 20 bulletins have been issued, making 72 in all. The bulletins are sent gratuitously to all such institutions, newspapers, and individuals as desire them and are likely to make use of them. In general, when a cipher telegram is received at the Observatory it is translated, printed by an autographic process upon the bulletin sheets, and mailed within

about an hour of the receipt of the original message. Several persons are prepared to take charge of the distribution, so that in the absence of one, another is available. Of the 20 messages distributed this year, 7 were received from Professor Kreutz, Kiel, 3 from the Lick Observatory, 2 from Professor W. R. Brooks, 1 from Professor A. O. Leuschner, and 1 from Professor H. A. Howe. Of the remaining 6 messages, 3 originated at the Arequipa, and 3 at the Cambridge Station of this Observatory. The distribution of announcements by telegraph is continued to such subscribers as wish to pay for the messages. Astronomers are requested as heretofore to send to this Observatory announcements of their discoveries for transmission to the Observatories of Europe and America. To secure prompt attention it is requested that all cablegrams be addressed, "Observatory, Boston," and all telegrams, "Harvard College Observatory, Cambridge, Mass." All correspondence relating to telegrams and announcements should be addressed to the Director.

Long Focus Telescope. — Nearly all of the great telescopes of the world resemble each other so closely that they do not furnish a means of deciding whether a change of form would increase their efficiency. In 1888, it was pointed out that, for certain purposes, there would be great advantages in constructing a telescope in which the focal length should be very small compared with the aperture. As a result, the generous patroness of astronomy, Miss C. W. Bruce, gave us \$50,000 with which the telescope that bears her name has been constructed. Last year it was shown that a horizontal telescope of great length, of the form proposed by the writer in 1881, would also have many advantages for certain investigations. The generosity of two friends of the Observatory permitted this experiment to be tried on a moderate scale by the construction of a telescope having an aperture of 12 inches, and a focal length of 136 feet. After deciding upon the form, the designs were prepared by Mr. Gerrish, and the instrument was constructed under his direction. A large part of the mounting was constructed in the workshop of the Observatory, and embodies many new features. For instance, the power for the driving clock is an electric motor which is regulated electrically by a control clock. Smaller motors control the slow motions in right ascension and declination, and rotate the plate in its own plane. This instrument has been sent to Mandeville, Jamaica, in charge of Professor W. H. Pickering, where it will be thoroughly tested during the next six months.

Standards for Faint Stellar Magnitudes.—By the aid of an appropriation from the Rumford Fund of the American Academy, an important investigation has been undertaken jointly by the Yerkes, Lick, McCormick, and Harvard Observatories. Telescopes of 40, 36, 26, 15, and 12 inches aperture will thus be used. The faintest stars visible will be selected and their light measured with the largest telescopes, while to the Harvard telescopes has been assigned the duty of selecting and measuring brighter stars with which these are to be compared. The friendly spirit in which the Directors of these observatories have coöperated, augurs well for the future of American astronomy. This feeling was further illustrated by the late Professor Keeler, who after securing remarkable photographs with the 36-inch reflector of the Lick Observatory, courteously sent some of them here to aid in this work. He also sent us a remarkable series of photographs of the cluster, Messier 3, to aid in our studies of the variable stars in that cluster.

Eros.—The near approach of the planet Eros to the Earth is generally regarded as the most important astronomical event of the year. The value of observations of this object for parallax is perhaps overestimated, since it will be too faint for satisfactory measurement with heliometers, and it is doubtful if our present knowledge of the solar parallax can be greatly improved by observations of Eros made this year. Accurate determinations of its absolute positions will doubtless be of great value, but this work will be undertaken at so many observatories, that much of the time spent could probably be more usefully expended on other objects. Accordingly, while many photographs will be taken here, it is doubtful if all will be measured, unless the number obtained elsewhere proves to be insufficient. The exposures here are made automatically, moving the plate after each. Ten images are thus obtained on each photograph. To determine the parallax, additional photographs will be taken east and west of the meridian, with films reversed. The most important observations of Eros, that will be made here, will be those relating to its variation in light. This will be found from the photographs, and also from visual observations. Ten stars have been selected from the region traversed twice by Eros, and it is compared with them every clear evening. Eros is also compared with adjacent stars by means of the photometer with achromatic prisms attached to the 15-inch Equatorial.

November Meteors.—Extensive preparations were made last November for the observation of the meteors. Circulars had been

distributed around the world so that it is probable that had the Earth passed through the meteor shower we should have received accurate counts of the number of meteors seen during the entire passage. An auxiliary station was established on Blue Hill and we hoped to determine the elevation, direction, velocity, and spectrum of the meteors appearing within 30° of the radiant point, and of the second magnitude and brighter. Arrangements were made with the authorities of the City of Cambridge, by which the fire alarm bells were to be rung if the meteor shower was brilliant.

Total Solar Eclipse.—It is the policy of this Observatory to secure the greatest scientific return for all expenditures made. Accordingly, expeditions are not, in general, sent from here to observe solar eclipses, first because no return is obtained in case the weather proves unfavorable, and secondly, because under the most favorable conditions the results are not considered as valuable as those obtained by an equal expenditure of money on other astronomical problems. Last spring, however, a plan was proposed by Professor W. H. Pickering to use a long focus lens in a search for an intermercurial planet which might in this way be detected even if as faint as the eighth magnitude. An expedition was accordingly sent, largely at the expense of the Observatory, to Washington, Georgia, to try this experiment. A camera about eleven feet long and seven feet on each side was built, in which thirty-six 8×10 plates were exposed to the images formed by four small lenses of eleven feet focus. A region around the Sun, of about $16^\circ \times 10^\circ$, was thus photographed on a scale of $1' = 1$ mm. Unfortunately, no satisfactory results were obtained, largely owing to the accidental disturbance of the instrument during totality. Instruments belonging to the Observatory are loaned as freely as possible to aid other astronomers, and accordingly, the long focus telescope described above, was lent to the Secretary of the Smithsonian Institution for observing this eclipse. The results were very satisfactory, the photographs of the protuberances and inner corona being among the finest yet secured. The eclipse was also observed by the Director and several of his assistants, under very favorable conditions, without expense to the Observatory.

Paris Exposition.—Much time was spent in the preparation of an exhibit which was sent to Paris. As the wall space was very limited, only eight feet, three wing frames were used, each containing thirty-two pages two feet square. About four hundred photo-

graphs were shown in all, which if exhibited in the usual way would have covered a wall space sixty feet long. A desk eight feet long, containing 18 glass positives, illuminated electrically from below, and illustrating various features of our work, was also shown. A *grand prix* was awarded for this exhibit.

Publications. — Volumes XXXII, Part II, XXXIII, XLII, Part II, and XLIV, Part I, of the *Annals* have been published and distributed. Volume XXVIII, Part II, *Spectra of Bright Southern Stars*, is nearly completed, and pages 129 to 176 are in type. Volume XXXVII, Part I, *Circumpolar Variables*, is in type and will be distributed as soon as it can be published. Pages 1 to 150, forming about one-half of Volume XLV, *Observations with the meridian photometer during the years 1895–1898*, is in type. This volume will give the photometric magnitudes of all stars of the magnitude 7.5 and brighter, north of declination -40° . With the issue of these works the first forty-five volumes of the *Annals* will be complete, with the exception of Volumes XXXVII, XXXIX, XLI, and XLIV, of which the first portions only are completed, and Volumes XXXVIII, and XLIII, which have not been begun. The bibliography of variable stars, by Mr. Reed, now contains 15,000 cards and is approaching completion. An important circular was issued last summer to the correspondents of the Observatory asking which volumes of our *Annals* are contained in their libraries. It is hoped that a large number of sets may be made complete from the duplicates stored here. Unfortunately, this cannot be done with the early volumes which are out of print, and in general, volumes relating to special work such as meteorology or meridian circle observations will not be sent to institutions engaged only in other departments of research. Duplicates not in use, if returned, will serve to supply deficiencies elsewhere, but on the other hand, duplicates of the later volumes can generally be given to those institutions which could usefully employ more than one copy. Many copies of the *Annals* have been sent to some of the friends and patrons of the Observatory who are not interested in Astronomy technically, in order to keep them informed of the progress and activity of this institution. It is probable that hereafter this distribution will be curtailed. On the completion of Circular No. 50, a title-page and index to the first fifty circulars was issued, and bound copies were distributed to observatories and libraries for permanent reference. The circulars will continue to be distributed mainly to the editors of periodicals. They thus reach a large number of readers promptly. The large

amount of work done on the Annals this year has interfered with the issue of the Circulars. For instance, fifty-six new variable stars discovered here have not yet been measured and announced.

The following six circulars have been issued during the year : —

47. Mme. Ceraski's Second Algol Variable. February 12, 1900.
48. A Photographic Search for an Intermercurial Planet. February 13, 1900.
49. Opposition of Eros in 1900. February 14, 1900.
50. Measurement of Photographic Intensities. May 9, 1900.
51. Positions of Eros (433) in 1893, 1894, and 1896. June 7, 1900.
52. Variable Stars in Clusters. Rate of Increase of Light. June 18, 1900.

The following minor publications have also appeared during the year : —

- Fifty-fourth Annual Report of the Director of the Astronomical Observatory of Harvard College. Cambridge, 1899.
- Observations of the Total Solar Eclipse of May 28, 1900, by the Harvard College Observatory Expedition. By W. H. Pickering. *Astrophysical Journal*, xii, 94.
- Observations of the November Meteors. By W. H. Pickering. *Popular Astronomy*, vii, 395.
- Non-Appearance of the expected Leonid Shower. By W. H. Pickering. *Ibid.*, vii, 523.
- A Possible Explanation of the Gegenschein. By W. H. Pickering. *Ibid.*, viii, 1.
- Lunar Changes during the Eclipse of December 16, 1899. By W. H. Pickering. *Ibid.*, viii, 57.
- Origin of the Lunar Formations. By W. H. Pickering. *Ibid.*, viii, 147.
- Origin of the Lunar Formations. By W. H. Pickering. *Ibid.*, viii, 181.
- The Lunar Atmosphere. By W. H. Pickering. *Ibid.*, viii, 205.
- The Total Eclipse of May 28, 1900. By W. H. Pickering. *Ibid.*, viii, 225.

EDWARD C. PICKERING, *Director*.

THE MUSEUM OF COMPARATIVE ZOÖLOGY.

TO THE PRESIDENT AND FELLOWS OF HARVARD COLLEGE:—

During the past academic year the regular courses in Zoölogy and Geology were given in the Natural History Laboratories of the Museum. Eight courses in Zoölogy were given by Professors Mark, Jackson, Parker, and Dr. Castle, assisted by Messrs. Breed, Crawley, and Ordway. These courses were attended by two hundred and seventy-six students. Six courses in Zoölogy were given to forty-two students at Radcliffe College.

Thirteen courses under the Department of Geology were given by Professors Shaler, Davis, Jackson, Ward, Drs. Jaggar and Daly, and Mr. J. B. Woodworth, assisted by Messrs. Boutwell and Burr. These courses were attended by five hundred and twenty-eight students. Eight courses in Geology were given to thirty-six students of Radcliffe.

The Summer School of Geology, which is held in the Museum, offered four courses, in which seventy-eight students were enrolled. The school was conducted by Professor Davis and Messrs. J. B. Woodworth and Woodman, assisted by Mr. Burr.

A noticeable thing in the reports of the Natural History Laboratories is the large number of students in these departments that have been called to positions in other colleges and universities or have been connected with the national and State geological surveys. The activity of the laboratories is also expressed by the number and quality of the publications by students in them. During the past year fifteen contributions from the Zoölogical Laboratory have been published, five of which appeared in the Bulletin of the Museum.

Chief among the changes and repairs have been the introduction of water into the extreme eastern end of the building in the rooms assigned to the Assistants in Entomology and Vertebrate Palaeontology. The many additions to the collections of birds have made necessary a rearrangement of the storage cases in the rooms on the fifth floor so as to provide separate rooms for the storage of bird and mammal skins. The delivery room of the library has undergone extensive alterations, including additional stacks for the increasing collection of books of reference. By these changes, and

many minor ones, much has been done for the comfort and efficiency of service of the staff of the Museum.

The changes in the exhibition room have been few. The arrival of a mounted specimen of the Eland has necessitated a new arrangement of the animals in the African room, which is now nearly as complete in the larger forms as space will allow. A large case has been constructed in the Europeo-Siberian room to accommodate a fine male Yak, also purchased during the last year, and a large specimen of the European brown bear has been added to the faunal collections of this room.

In the report of last year mention was made of the great need of the Museum for a collection of skins of mammals for study and reference. Thanks to the efforts of the Overseers' Committee, friends of the Museum have purchased for it the well-known collection of A. E. and O. Bangs of Boston, one of the best and most complete collections of North American mammals, comprising over ten thousand skins mostly with skulls, including upward of one hundred type specimens, all in perfect order and condition. Considering the large outlay, the years of labor expended on the collection, and the nominal sum for which its owners released it, the collection comes to the Museum rather as a gift from the Messrs. Bangs. Mr. Outram Bangs has been appointed Assistant in Mammalogy and assumes charge of the Museum collections.

In the Department of Ornithology the principal accessions were a series of Arizona skins from Mr. J. F. McClure of New York, and the large Bryant collection deposited by Mr. Henry Bryant Bigelow of Boston, details of which will be found in Mr. Brewster's report.

Although no very important additions have been received to the collections of Insects, Fishes, and Reptiles, it is gratifying to see by the reports of Mr. Henshaw and Mr. Garman that the number of contributors to these departments has been greater than in recent years.

Dr. Faxon, who was away from Cambridge on leave of absence for half of the year, reports good progress in the arrangement of the Call collection of Unionidae and welcome additions to the collections of Mollusca and Crustacea.

The Assistant in charge of Radiates, Dr. A. G. Mayer, has resigned from the Museum staff to accept an appointment in the Museum of the Brooklyn Institute.

The collection of worms has received a valuable addition from Professor Ludwig von Graff in a long series of specimens of Land-planarians, co-types of many of the forms described by him in his

monograph of the group. To Dr. Sateiro Goto of Japan, the collection is also indebted for a series of Trematod types. Owing to the accumulation of material gathered by Mr. Agassiz's expeditions in the Pacific the task of studying the large collection of Nemerteans in the Museum with those of the U. S. National Museum and the Columbia University Puget Sound Expedition, has had to be abandoned by the Assistant in charge, and Dr. Wesley R. Coe of Yale University has undertaken to carry on the work, limited to forms from the Pacific coast. Since his return to Cambridge he has made good progress with his study of the Palolo or Bololo worm of Samoa and Fiji and allied Eunicidae from the tropical Pacific, and will soon have ready his report on the Nemerteans of the "Albatross" expedition of 1891.

The palaeontological collections have been enriched by two specimens of great value in the purchase of complete skeletons of a gallinaceous bird and an alligator gar of large size, both of Tertiary age. These unique specimens have been described in the Bulletin of the Museum by Dr. Eastman and Mr. F. A. Lucas. Dr. Eastman, in the interests of his department, is visiting the fossil fields of the west, and his travels promise to add largely to our collection of fossil vertebrates.

From Joseph Wilcox of Philadelphia there has been received a valuable collection of Eocene shells from the "Isaac Lea Collection" in the Philadelphia Academy of Sciences. This gift comes as a contribution from a descendant of Governor Thomas Dudley, who signed the charter of Harvard College in 1650.

To the Cuban teachers, who were entertained by the University during the past summer, we are indebted for several small miscellaneous collections.

Under the direction of Mr. Henshaw, the library is undergoing a thorough overhauling with a view to filling gaps in the serials. The geological serials, which were divided between the Whitney and general Museum libraries, have been combined, as well as the reports of government surveys, and have been alphabetically arranged according to countries. The library has received about the usual number of accessions.

The publications of the Museum during the past year have been more than the average number. Fourteen numbers of the Bulletin have appeared, with 683 pages and 174 plates, and two numbers of the "Memoirs," with 574 pages and 121 plates. One report on the explorations of the "Blake" (No. XXXVIII), that of Professors Bouvier and Fischer (Bull. Vol. XXXII, No. 10), has appeared,

and two reports (Nos. XXV and XXVI) on the results of the "Albatross" expedition of 1891, that on the Ophiuridae by Professor Lutkin and Mortensen (Mem. Vol. XXIII, No. 2), and Mr. Garman's splendid report on Fishes (Mem. Vol. XXIV). Six numbers of the Bulletin represent contributions from the Zoölogical Laboratory, under the direction of Dr. Mark, and one from Mr. Agassiz's Marine Laboratory at Newport. Volumes XXXVI, XXXVII, and XXXVIII of the Bulletin, and volumes XXV and XXVI of the Memoirs are in course of publication.

The crowded condition of the Natural History Laboratories incident upon the increasing number of students has for some time past hampered the departments of Zoölogy, Geology and Geography, and hindered their growth and development. Through the generosity of Mr. Agassiz, Mr. and Mrs. Quincy A. Shaw, and Mrs. Henry L. Higginson, the southwest corner of the University Museum is soon to be built, and this addition will complete the main or eastern façade of the great building planned by the late Professor Agassiz and leave unfinished but one hundred feet of the southern wing to realize the entire plan. The new building will accommodate the departments of Geology and Geography, providing them with numerous lecture rooms, laboratories and shops, and three exhibition rooms, which will connect through the mineralogical Museum with the system of exhibition rooms of the entire building. The laboratories and lecture rooms now occupied by the departments of Geology and Geography will be assigned to the departments of Zoölogy and and Palaeontology.

During the greater part of the year the Assistant in Charge was absent from Cambridge with Mr. Agassiz on the cruise of the "Albatross" in the tropical Pacific. The United States Fish Commission steamer "Albatross" was placed at the disposal of Mr. Agassiz to explore the islands of the tropical Pacific in continuance of his researches on coral formations. There accompanied him from the Museum, as assistants, Drs. A. G. Mayer and W. McM. Woodworth. The government naturalists attached to the ship were Dr. H. F. Moor and Mr. A. B. Alexander, and Mr. C. H. Townsend who remained with the expedition as far as Fiji. The "Albatross" was commanded by Commander Jefferson F. Moser, U. S. N., with Lieutenant Hugh Rodman as executive officer, and to the untiring interest of these two gentlemen and the officers of the "Albatross" is due much of the success of the expedition. The Hon. George M. Bowers, United States Commissioner of Fish and Fisheries and the Navy Department at Washington did everything

possible to advance the interests of the expedition. The expedition was assisted in every way by the officials of the different governments in the Pacific, and was received with the greatest courtesy and cordiality in the English, French and German colonies and by the Japanese government.

The "Albatross" sailed from San Francisco on August, the twenty-third, 1899, and arrived at Yokohama on March the fourth of the following year, after having visited more than seventy-five different islands in the Marquesas, Paumotus, Society, Cook, Friendly, Fiji, Ellice, Gilbert, Marshall, Caroline, and Ladrone groups. Two hundred and forty-nine different hydrographic stations were occupied. By far the deepest trawl haul yet made was successfully accomplished in 4173 fathoms, with the "Blake" beam trawl, about seventy-five miles east of Togatabu, when large fragments of a silicious sponge were brought up in the trawl. Extensive collections were made with intermediate and surface nets, and shore collections of all kinds. A number of hauls were made with the Krämer quantitative nets to determine the relative amount of pelagic life within and outside of atolls, and showed the presence of a richer plankton in the atoll lagoons. More than one thousand photographic negatives were obtained, illustrating the physical characteristics of the different islands and reefs visited. The large collections are being sorted and distributed to different specialists to report upon, and the result will be published by the Fish Commission in coöperation with Mr. Agassiz for the Museum. Several reports are nearly ready for the printer.

The Assistant in Charge is under great obligations to Mr. Samuel Henshaw who took entire charge of the Museum during his long absence in the Pacific.

W. McM. WOODWORTH,
Assistant in Charge.

THE ZOÖLOGICAL LABORATORY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—As no formal report since that for the year 1897–98 has been printed, the present report will cover the academic years 1898–99 and 1899–1900.

Owing to the absence of Professor Mark in Europe during the year 1898–99, the work of the department was to some extent rearranged. Course 2 was given jointly by Drs. Parker and Castle. Dr. Castle took charge of courses 4 and 5, and the duty of supervising research students was shared by Doctors Davenport, Parker and Castle.

The numbers of students from the several classes in the various courses of the Department are shown in the following table, to which is added for convenience of reference the number of students in the corresponding courses given in Radcliffe College.

Courses, 1898-99.	Grad.	Sen.	Jun.	Soph.	Fresh.	Spec.	Sci.	Total							
Zoölogy 1 . . .	1	7	4	22	5	30	2	23	3	6	5	33	123	19	
“ 2 . . .		4	2	6	2	7	2	1		2	4	13	33	10	
“ 3 . . .	6	1	6	2	6	2	2			1		14	34	6	
“ 4 . . .	2	1	4	1	1					1	5	12	3		
“ 5 . . .	3	2		1								4	10		
“ 9 . . .	2											1	3		
“ 11 . . .	9											1	10		
“ 16 . . .	7		2	1								4	12	2	
“ 20 a . .	12											3	15		
Totals	42	2	23	11	37	9	30	4	24	3	8	11	78	251	40

The numbers in *italic* refer to students of Radcliffe College.

Zoölogy 1 was given, as previously, by Dr. Davenport. The Chief Assistant in the course was Mr. S. R. Williams; the Sub-Assistants were Messrs. J. W. Folsom and R. M. Yerkes.

The lectures in Zoölogy 2 were given by Drs. Parker and Castle, the laboratory work being supervised by Dr. Parker, who had as Chief Assistant Mr. C. W. Prentiss and as Sub-Assistant Mr. R. M. Yerkes.

Dr. Parker had as Assistant in Zoölogy 3, Mr. P. Frandsen.

Zoölogy 4 and Zoölogy 5 were given by Dr. Castle, who had assisted in these courses in the previous years. Mr. H. W. Rand had charge of the laboratory work in both these courses.

Dr. Jackson, who was promoted during the year to be Assistant Professor of Palaeontology, carried on Zoölogy 9. Sets of models of Brachiopods and of Trilobites were purchased by the Department to facilitate the instruction on these groups.

In Zoölogy 11, given by Dr. Davenport, the number of students was larger than ever before, and from the nature of the work entailed a corresponding increase of labor on the part of the instructor. The results of the work of some of the students in this course — Messrs. P. Frandsen, R. M. Strong, and R. M. Yerkes — have been prepared for publication and will appear in the Contributions from this laboratory. That of Mr. H. W. Rand has already been published as No. 102 of the Contributions.

The lectures in Zoölogy 16 by Dr. Parker were followed chiefly by Graduates and Scientific School students. A report was required from each student on some topic selected for reading.

So much of Dr. Davenport's time had to be given to the work of students in Zoölogy 11, that he took charge of only the three following students carrying on researches in Zoölogy 20a: Mr. J. W. Folsom prepared a paper on "The Development of the Mouth-Parts in *Anurida maritima* Guér;" Mr. W. J. Moenkhaus worked on a problem in variation till the middle of the year, when he accepted a temporary position in Williams College caused by the death of Professor Peck; Mr. W. L. Tower studied variation in the color-pattern of the wings of certain beetles.

Dr. Parker supervised the work of the following men in Zoölogy 20a: Mr. C. W. Prentiss continued his studies on the otocyst of decapod Crustacea, and Mr. S. R. Williams his on the changes accompanying the migration of the eye in flounders; Mr. F. Howe, Jr., investigated the early condition of the nervous system in the spider and the lobster; Mr. P. Frandsen began work on planarians; Mr. R. M. Yerkes began the study of the pineal eye of a reptile; Mr. P. E. Sargent continued his researches on the central nervous system of teleosts, arriving at some interesting results, which have been published as No. 106 of the Contributions; Mr. W. A. Hickman continued work on the mesenteries of Amphibia. The studies of Mr. W. A. Willard on the eyes of *Pecten* were supervised by Drs. Parker and Castle jointly.

Dr. Castle had entire charge of the following men in their researches: Mr. H. W. Rand continued his studies on the centrosomes

of nerve cells in the earthworm, and Mr. R. W. Hall on the mesonephros in Amphibia; Mr. M. A. Bigelow nearly completed a valuable paper on the development of Lepas; and Mr. J. C. Phillips studied the development of the ear in Amblystoma.

In June 1899 the degree of Doctor of Science was conferred upon one candidate in Zoölogy, Mr. Justus Watson Folsom. His thesis consisted of two parts: I. The Anatomy and Physiology of the Mouth-Parts of the Collembolan, *Orchesella cincta* L.; II. The Development of the Mouth-Parts of *Anurida maritima* Guér. Dr. Folsom was appointed at the close of the year to the Chair of Biology in Antioch College. The degree of A.M. was conferred upon five students whose work had been chiefly zoölogical, and that of S.M. upon one.

Professor Jackson published a paper on the development of animals and plants, the title of which will be found in the report on Geology. Dr. Davenport published during the year "Experimental Morphology, Part Second. Effect of Chemical and Physical Agents upon Growth,"—"The Fauna and Flora about Cold Spring Harbor, L. I.,"—"Statistical Methods with Special Reference to Biological Variation," and articles in *The American Naturalist*. He continued to be Director of the Biological Laboratory of the Brooklyn Institute at Cold Spring Harbor, L. I., N. Y., to the supervision of which he gave a considerable part of the summer vacation.

Dr. Parker published in the *Museum Bulletin* an article which appears as No. 100 of the Contributions, and jointly with a student of Radcliffe College another which constitutes No. 101 of the same series.

A brief account of *Branchiocerianthus* was presented to one of the Sections of the Fourth International Congress of Zoölogy, at Cambridge, England, by Professor Mark, and is printed in the Proceedings of the Congress; and a note, entitled "'Branchiocerianthus,' a Correction," was later published in the *Zoologischer Anzeiger*. While the general supervision of the Contributions remained with Professor Mark, much of the burden of looking after details connected with the reproduction of plates, etc., was borne by Dr. Parker. A list of the Contributions published since July 1898 is appended to these reports.

The Virginia Barret Gibbs Scholarship was held by Mr. Maurice A. Bigelow, who received at the end of the year an appointment in the Teachers College, Columbia University. One of the Parker Fellowships was granted by the Corporation to Dr. F. W. Bancroft, who studied at the University of Berlin and at the Naples Zoölogical

Station. During the Summer of 1899 nine persons received aid from the income of the Humboldt Fund while carrying on studies at the U. S. Fish Commission Laboratory, Wood's Hole.

The meetings of the Zoölogical Club were held, as in 1897-98, at 4.30 p.m., on Thursdays, and were well attended.

Toward the close of the year 1897-98 plans were made for replacing the temporary wooden supports of the paraffine water-baths used in the laboratories by more permanent shelves made of slate and supported by iron brackets. This improvement was carried out in the summer of 1898. To decrease further the risk of fire a large slab of thick slate-stone was also placed on the floor beneath each water-bath. Although this was an expensive improvement, it was highly important, and the change has incidentally resulted in making the laboratory equipment more convenient.

At the beginning of the College year 1899-1900 the Department met with a serious loss by the resignation of Dr. C. B. Davenport, whose thorough knowledge and untiring energy were of great value to the Department, and whose enthusiasm and sympathetic guidance were especially appreciated by those advanced students who knew him intimately. His sudden departure made it necessary to withdraw Course 10 and rearrange to some extent the other courses.

Dr. Parker, who was promoted to be Assistant Professor of Zoölogy, took charge of Course 1, in addition to Course 15, and gave up Course 3. Dr. Castle resumed his position in charge of Course 2 and as Assistant in Courses 4 and 5, and Professor Mark resumed the work he had before taking his "Sabbatical year." Mr. W. B. Cannon was appointed Instructor in Zoölogy for the year and conducted Course 3.

Courses, 1899-1900.	Law	Grad.	Sen.	Jun.	Soph.	Fresh.	Spec.	Sci.	Total							
Zoölogy 1	1	2	21	9	17	6	28	2	80	2	6	2	42	146	21	
“ 2		2	2	2	9	4	11		2	1	2	20	47	9		
“ 3		2	6	1	3	1					2	2	4	17	5	
“ 4		3	1	4		1							7	15	1	
“ 5		2		4		1							6	13		
“ 9				1									1	2		
“ 15		4		7		4	2				1	2	7	23	4	
“ 20a		12	2	1										13	2	
Totals . .	1	27	3	46	12	35	13	39	3	32	3	10	8	87	276	42

The numbers in italic refer to students of Radcliffe College.

The Table on page 281 gives the number of students from the various classes in each of the zoölogical courses, and like information about students attending corresponding courses in Radcliffe College. The total number of students in all zoölogical courses in Harvard exceeded that of the previous year by about 10 per cent.

Professor Parker had as Chief Assistant in Zoölogy 1, Mr. S. R. Williams, who had held the same position the year before, and as Sub-Assistant Mr. W. L. Tower.

In Zoölogy 2 Dr. Castle gave the lectures and supervised the laboratory work. His Chief Assistant was Mr. C. W. Prentiss, who had been Assistant in the course during the previous year; the Sub-Assistant was Mr. W. A. Willard.

Mr. W. B. Cannon conducted the work in Zoölogy 3 on the same general plan that has been followed for several years. Special topics in comparative anatomy were substituted for class work during the last five weeks in the case of nine students, who had done their routine work in a manner to warrant this substitution. Mr. W. A. Willard was Assistant in the course.

Zoölogy 4 and 5 were carried on substantially as in 1897-98.

In addition to those regularly enrolled, Professor Jackson has had, as more or less regular attendants on his lectures in Zoölogy 9, five students, mostly graduates. He proposes in future to divide the course into two half courses, giving in the first half-year a more rapid survey of fossil invertebrates than heretofore, and in the second half-year more advanced work on selected groups. It is hoped that the reduction of the time required for the general survey will render it possible for a larger number of the zoölogical students to take this important course.

Zoölogy 15 was given by Professor Parker in the second half-year; not in the first as announced. Although proper laboratory facilities could not be provided for this course, it was decided to allow a certain number of men to substitute laboratory work for the thesis required of other members of the class. Eight students availed themselves of this opportunity to work on special topics. The results obtained by three or four of them will be presented for publication. In future the opportunity for laboratory work will be offered to a limited number of the students electing this course or Zoölogy 16. Professor Parker also proposes to transfer permanently Courses 15 and 16 to the second half-year, and to offer next year a half course in the first half-year, to be called Zoölogy 13, dealing with the structure and genesis of the chief animal tissues, and giving special attention to the structure and functions of the nervous elements in relation to other tissue elements.

The degree of Doctor of Philosophy was conferred upon three candidates in Zoölogy in June, 1900: Mr. Herbert Wilbur Rand, whose thesis was "A study upon the Regenerating Nervous System of *Lumbricus*, with Special Regard to the Centrosome of Nerve Cells;" Mr. Charles William Prentiss, whose thesis was on "The Otocyst of Decapod Crustacea; its Structure, Development, and Physiology;" and Mr. Stephen Riggs Williams, whose thesis was on "Changes Incident to the Migration of the Eye in *Pseudopleuronectes americanus*, together with Some Observations on the Optic Tract and Tectum Opticum."

Dr. Williams has been appointed to the Chair of Biology in Miami University; Mr. Peter Fransden has accepted an appointment to the Chair of Biology in the University of Nevada; and Mr. W. L. Tower a like position in Antioch College.

In December, 1899, Dr. F. W. Bancroft resigned his Parker Fellowship and relinquished the stipend for the year to accept a position in the Zoölogical Department of the University of California. The Virginia Barret Gibbs Scholarship was held by Mr. H. W. Rand. Eight students working at the U. S. Fish Commission Laboratory at Wood's Hole in the summer of 1900 received aid from the income of the Humboldt Fund.

The meetings of the Zoölogical Club were held weekly during the greater part of the year on Thursday afternoons from 4.30 to 6 o'clock, and were attended by from 15 to 20 persons.

Professor Parker has published in the Contributions Nos 100 and 110, and jointly with a student of Radcliffe College No. 101. He has also published "Studies from the Newport Laboratory," No. 42, in the Museum Bulletin; a lecture on "The Neurone Theory in the Light of Recent Discoveries," in *The American Naturalist*, June, 1900; and reviews in *Science* and *The American Naturalist*. Dr. Castle has published in the Contributions two important papers, Nos. 108 and 112, on *Hirudinea*, and reviews in *The American Naturalist*.

The need of better lighting for the work tables of the laboratories has long been evident; the want of good light is especially felt during the short days of autumn and early winter. Soon after the beginning of the year, the large lecture room on the fifth floor, which is also used as a laboratory for students in Zoölogy 1, was furnished with electric lamps and shades pendant from movable brackets and adjustable to any desired height, one over each table. The arrangement has proved to be highly satisfactory. Clusters of electric lamps for the general lighting of the laboratory on the second floor were also introduced. Through the courtesy of the Department of

Mineralogy and Petrography these lamps were lighted from the dynamo belonging to that Department. In addition, the work tables in three of the laboratories that were already conveniently supplied with gas piping were fitted out each with a single Welsbach burner and shade. The piping of the table is permanently attached to the under side of the top, and is easily connected with the wall piping by means of short rubber tubing. This arrangement will allow the use of such tables in any other room without further outlay, should it be found necessary in the future to shift a laboratory from one room to another.

E. L. MARK, *Director.*

CONTRIBUTIONS FROM THE ZOÖLOGICAL LABORATORY FOR
THE ACADEMIC YEARS 1898-99 AND 1899-1900.

- XCIII. MARK, E. L. — Preliminary Report on *Branchiocerianthus urceolus*, a new Type of Actinian. *Bull. Mus. Comp. Zoöl.*, Vol. 32, No. 8, pp. 147-154. 3 pls. August, 1898.
- XCIV. SARGENT, P. E. — The Giant Ganglion Cells in the Spinal Cord of *Ctenolabrus cæruleus*. *Anat. Anzeiger*, Bd. 15, No. 11 u. 12, pp. 212-225. 10 figs. December 20, 1898.
- XCV. RAND, H. W. — Regeneration and Regulation in *Hydra viridis*. *Archiv für Entwicklungsmechanik*, Bd. 8, Heft 1, pp. 1-34, Taf. 1-4. February 21, 1899.
- XCVI. FOLSOM, J. W. — The Anatomy and Physiology of the Mouth-Parts of the Collembolan, *Orchesella cincta* L. *Bull. Mus. Comp. Zoöl.*, Vol. 35, No. 2, pp. 5-39. 4 pls. July, 1899.
- XCVII. MARK, E. L. — "*Branchiocerianthus*," a Correction. *Zool. Anzeiger*, Bd. 22, No. 590, pp. 274, 275. June 26, 1899.
- XCVIII. BANCROFT, F. W. — Ovogenesis in *Distaplia occidentalis* Ritter (ms.), with Remarks on Other Species. *Bull. Mus. Comp. Zoöl.*, Vol. 35, No. 4, pp. 57-112. 6 pls. October, 1899.
- XCIX. GALLOWAY, T. W. — Observations on Non-sexual Reproduction in *Dero vaga*. *Bull. Mus. Comp. Zoöl.*, Vol. 35, No. 5, pp. 113-140. 5 pls. October, 1899.
- C. PARKER, G. H. — The Photomechanical Changes in the Retinal Pigment of *Gammarus*. *Bull. Mus. Comp. Zoöl.*, Vol. 35, No. 6, pp. 141-148. 1 pl. October, 1899.
101. PARKER, G. H., AND DAVIS, FREDERICA K. — The Blood Vessels of the Heart in *Carcharias*, *Raja*, and *Amia*. *Proceed. Bos. Soc. Nat. Hist.*, Vol. 29, No. 8, pp. 163-178. 3 pls. October, 1899.
102. RAND, H. W. — The Regulation of Graft Abnormalities in *Hydra*. *Archiv für Entwicklungsmechanik*, Bd. 9, Heft 2, pp. 161-241. Taf. 5-7. October, 1899.

103. YERKES, R. M. — Reaction of Entomostraca to Stimulation by Light. Amer. Jour. Physiol., Vol. 3, No. 4, pp. 157-182. November, 1899.
104. TOWER, W. L. — The Nervous System of the Cestode *Moniezia expansa*. Zool. Jahrb., Abth. für Anat., Bd. 13, Heft 3, pp. 359-384. Taf. 21-26. April 10, 1900.
105. WAITE, F. C. — The Structure and Development of the Antennal Glands in *Homarus americanus* Milne-Edwards. Bull. Mus. Comp. Zoöl., Vol. 35, No. 7, pp. 149-210. 6 pls. December, 1899.
106. SARGENT, P. E. — Reissner's Fibre in the Canalis Centralis of Vertebrates. Anat. Anzeiger, Bd. 17, Heft 2, pp. 33-44. 3 pls. January 15, 1900.
107. WILLIAMS, S. R. — The Specific Gravity of Some Fresh-Water Animals in Relation to their Habits, Development, and Composition. Amer. Naturalist, Vol. 34, No. 398, pp. 95-108. 3 figs. February, 1900.
108. CASTLE, W. E. — The Metamerism of the Hirudinea. Proceed. Amer. Acad. Arts and Sciences, Vol. 35, No. 15, pp. 283-303. 8 figs. February, 1900.
109. LINVILLE, H. R. — Maturation and Fertilization in Pulmonate Gasteropods. Bull. Mus. Comp. Zoöl., Vol. 35, No. 8, pp. 211-248. 4 pls. May, 1900.
110. PARKER, G. H. — Note on the Blood Vessels of the Heart in the Sunfish (*Orthogoriscus mola* Linn.). Anat. Anzeiger, Bd. 17, Heft 16 u. 17, pp. 313-316. 1 fig. March 31, 1900.
111. PRATT, H. S. — The Embryonic History of Imaginal Discs in *Melophagus ovinus* L., etc. Proceed. Bost. Soc. Nat. Hist., Vol. 29, No. 13, pp. 241-272. 7 pls. June, 1900.
112. CASTLE, W. E. — Some North American Fresh-Water Rhynchobdellidæ, and their Parasites. Bull. Mus. Comp. Zoöl., Vol. 36, No. 2, pp. 15-64. 8 pls. August, 1900.

DEPARTMENT OF GEOLOGY AND GEOGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY : —

SIR, — The past two years have brought gifts to the University in which the Department of Geology and Geography is directly or indirectly concerned to the amount of \$125,500. The most important of these gifts was that of \$100,000 from Mr. Alexander Agassiz and members of his family, to be used in the construction of the southwest corner of the Museum. In this new section of the Museum the Department will find the larger and more convenient quarters of which it has for some time stood in great need. The value to the Department of this generous gift cannot be overestimated. Another gift which will prove of very great value is that of \$20,000, from the family of the late John Simpkins, of the class of 1885, to be used in connection with the work in mining and metallurgy. This money is to be devoted to the building of a new and much-needed metallurgical and ore-dressing laboratory, which is now under construction, in connection with the Rotch Building. Another gift of \$5,000, from Miss Rotch, which was for use in the Lawrence Scientific School, was, by the Corporation, devoted to expenditures in connection with the work in the Rotch Building. Messrs. Fairchild and Gardner, of the Visiting Committee appointed by the Board of Overseers, gave \$500 to be expended on a new stereopticon and the necessary machinery pertaining thereto. This gift, which will make it possible to use a large number of the valuable lantern slides in the Gardner Collection to much better advantage than heretofore, has put the Department under additional obligations to its Visiting Committee.

The Department has, during the past two years, gained decidedly in the value of its teaching by the considerable additions that have been made to the College Library in the way of publications of foreign geological and topographical surveys.

The most important changes in the courses of instruction have been as follows : —

Geology 22 (previously 22*a*), a course in geological field work, which was formerly under the charge of various instructors, was, in 1899–1900, put in charge of Dr. Jaggar. The result has been a decided gain in the amount and the quality of the work done by the

students in the course. The work is now carried on systematically, under the constant personal supervision of one instructor.

One new full-course in mining (Mining 12: The Study of Mining Operations) with six weeks of summer work, and a new half-course in mining (Mining 10: Ore Assaying) were added in 1899-1900. Both of these courses are given by Mr. G. S. Raymer.

Geology 25, a new half-course in the Climatology of the United States, was given for the first time in 1898-99 by Assistant Professor Ward.

Geology 11, a new half-course in Oceanography, was given for the first time in 1899-1900 by Dr. Daly.

Professor Shaler has given or taken part in ten courses in the College and the Summer School during the past two years. In the summer of 1899, Messrs. Burr and Boynton, advanced students in the Department, made, under Professor Shaler's direction, a petroleum survey of New Brunswick, and a general study of the Province which has yielded valuable results. In the same summer, Mr. J. E. Woodman made an investigation of the gold deposits in Nova Scotia, and in the summer of 1900 Mr. Rock carried on advanced studies in work for the U. S. Geological Survey in Colorado.

Professor Davis was absent on leave during the academic year 1898-99. Excursions for geographical study were made by Professor Davis to many places in Europe, including trips with parties of students from the universities of Vienna, Berne, and from the Zürich Polytechnikum, under the direction of Professors Penck, Brückner, and Heim, respectively. Previous to his return, in September, 1899, Professor Davis attended the meeting of the International Geographical Congress in Berlin. Beginning with the academic year 1899-1900, after his appointment to the Sturgis-Hooper Professorship of Geology, Professor Davis relinquished the elementary course in Physiography to Dr. Daly, retaining in 1899-1900 the course on the Physiography of Europe and the advanced course in Physiography, as in former years. In June, 1900, Professor Davis made an excursion to the Grand Canyon district of Arizona in company with several other geographers, and after giving the usual summer course in Physiography, he sailed for England to take part in the "summer meeting" at the University of Cambridge, where he gave six lectures on geographical subjects.

Professor Smyth has devoted his summers to the examination of mines in Michigan, Utah, Colorado, and New Mexico, and to other expert mining work in the West. Mr. P. S. Smith, under the direction of Professor Smyth, in both 1898-99 and 1899-1900

made a study in the field and in the laboratory of copper deposits in Vermont.

Professor R. T. Jackson reports that the palaeontological collections are in good condition and have received substantial additions. Valuable gifts of Lower Cambrian fossils from Mill Cove, Weymouth, were received from Messrs. H. T. Burr and T. G. Watson; of Carboniferous fishes (from Nova Scotia) from Mr. Burr, and of Portage and other fossils (from New York State) from Mr. J. B. Woodworth. During the mid-year examination period in 1899-1900, the palaeontological teaching collections and other equipment were moved into another room in the Museum. This change has been of decided advantage as it gives Professor Jackson a separate room, whereas in previous years he was obliged to use a room in which instruction was also given in several geological courses.

Professor Ward has completed a laboratory manual of elementary meteorology, and has nearly completed an English translation of Vol. I of Hann's *Handbuch der Klimatologie*.

Mr. J. B. Woodworth has given considerable time to the supervision of work on the Gardner Collection of Photographs, to which several important additions have been made. Mr. Woodworth has further been engaged in outside work in connection with the final preparation of his reports on the geology of the Narragansett and Richmond Basins, and, as Assistant Geologist of the New York State Museum, he has begun an investigation of the glacial deposits in New York State. He is also preparing an elementary text-book of general geology for secondary schools.

Dr. Jaggard was employed during the summers of 1898-99 by the U. S. Geological Survey to make geological investigations of the mining district of the Black Hills. He was assisted in the field by Messrs. J. M. Boutwell and P. S. Smith, students in the Department. Dr. Jaggard has for some years been engaged, as assistant to Mr. Arnold Hague, on a report on the petrography of the Absaroka Range in the Rocky Mountains. This report will be published in Monograph XXXII, of the U. S. Geological Survey.

Dr. Daly returned to Cambridge in June, 1898, after two years absence in Europe. Through the kindness of Mr. Agassiz, Dr. Daly has been given access to the "Blake," and other collections of marine sediments now deposited in the Museum of Comparative Zoölogy, and has carried on a microscopic study of these. The summer of 1900 was spent on the northwestern coast of Labrador, where a geographical reconnaissance was carried on. A report of the expedition will shortly appear in the Bulletin of the Museum.

Mr. Raymer conducted the new course, Mining 12, during the summer of 1900, visits being made to the iron deposits of Lake Champlain, N. Y., and Dover, N. J.; to the anthracite region of Pennsylvania, and to Bethlehem, Pa.

The most important additions to the laboratory equipment during the past two years were two geographical models, one of Crater Lake, Oregon, and one of St. Mary's Butte, California; three large-scale colored charts showing the distribution of pressures and winds over the world for the year, January and July, and a considerable number of photographic enlargements of text-book diagrams.

The most important publications by officers and students of the Department during the years 1898-99, and 1899-1900, were as follows:—

By N. S. SHALER:—

Geology of the Cape Cod District. *Eighteenth Annual Report U. S. Geological Survey.*

Geology of the Narragansett Basin (with J. B. Woodworth and A. F. Foerste). *Monograph*, xxxiii, *U. S. Geological Survey.*

By W. M. DAVIS:—

The Triassic formation of Connecticut. *Eighteenth Annual Report U. S. Geological Survey.* Part II, 1898, 1-192, 20 pl.

The peneplain. *Amer. Geol.*, xxiii, 1899, 207-239.

The drainage of Cuestas. *Proc. Geol. Assoc.* (London) xvi, 1899, pp. 75-93.

Balze per Faglia nei monti Lepini (translated by F. M. Pasanisi). *Boll. Soc. Geogr. Ital.*, xii, 1899, 572-581.

Chapters on North America and the United States, in the *International Geography*, edited by H. R. Mill, London and New York, 1899, 660-678, 710-773.

The geographical cycle. *Geogr. Journ.* (London), xiv, 1899, 481-504.

Glacial erosion in the Valley of the Ticino. *Appalachia*, ix, 1900, 136-156.

Glacial erosion in France, Switzerland, and Norway. *Proc. Boston Soc. Nat. Hist.*, xxix, 1900, 273-322.

The freshwater formations of the Rocky Mountain Region. *Proc. Amer. Acad. Arts and Sci.*, xxxv, 1900, 345-373.

Fault scarp in the Lepini Mountains, Italy. *Bull. Geol. Soc. Amer.*, xi, 1900, 207-216.

With W. H. Snyder:—

Physical Geography. Boston, Ginn & Co., 1898, 428 p.

By H. L. SMYTH:—

The Crystal Falls iron-bearing district of Michigan (with C. R. Van Hise, J. M. Clements, and W. S. Bayley). *Monograph*, xxxvi, *U. S. Geological Survey*, 1899.

The Crystal Falls iron-bearing district of Michigan (with C. R. Van Hise, J. M. Clements, and W. S. Bayley). *Nineteenth Annual Report Director U. S. Geological Survey*. Part III, 1899.

By R. T. JACKSON: —

Localized stages in development in plants and animals. *Memoirs Bost. Soc. Nat. Hist.*, Vol. V, No. 4, 1899, pp. 89–153, pl. 16–25, 14 text-figures.

By R. DEC. WARD: —

Practical exercises in elementary meteorology. 8vo. Ginn & Co., Boston, 1899, pp. 199, figs. 53.

By J. B. WOODWORTH: —

Some glacial wash-plain of southern New England. *Bull. of the Essex Institute*, xxix (1897), 1899, pp. 71–119.

(With N. S. Shaler) Geology of the Richmond Basin, Virginia. *Nineteenth Annual Report U. S. Geological Survey*. Part II, 1899, pp. 385–519.

Vertebrate footprints on Carboniferous shales of Plainville, Mass. *Bull. Geol. Soc. Am.*, Vol. xi, 1900, pp. 449–454.

By A. SAUVEUR: —

The progress of metallography in 1898. *The Metallographist*, Jan. 1899.

The mechanical uses of the science of metallography. *Engineering Magazine*, Sept. 1899.

By R. A. DALY: —

The peneplain — a review. *Am. Naturalist*, Vol. xxxiii, Feb. 1899, pp. 127–138.

On the optical character of the vertical zone of amphiboles and pyroxenes; and On a new method of determining the extinction angles of these minerals by means of cleavage pieces. *Proc. Amer. Acad. Arts and Sci.*, Vol. xxxiv, No. 12, Feb. 1898, pp. 311–323. 3 pl.

A comparative study of etch-figures. The amphiboles and pyroxenes. *Proc. Amer. Acad. Arts and Sci.*, Vol. xxxiv, No. 15, March, 1899, pp. 373–429.

Palestine as illustrating geological and geographical controls. *Bull. Am. Geogr. Soc.*, Vol. xxxi, 1899, pp. 444–458, and Vol. xxxii, 1900, pp. 22–31.

By T. A. JAGGAR, JR.: —

Experimental investigation of the formation of minerals in an igneous magma; a review. *Journal of Geology*, Vol. vii, No. 3, April–May, 1899, pp. 300–313. 2 pl.

The Laccoliths of the Black Hills, by T. A. Jaggar, Jr., with a chapter on Experiments illustrating intrusion and erosion, by Ernest Howe. *Twenty-first Annual Report Director U. S. Geological Survey*. (In press.)

With Arnold Hague and J. P. Iddings:—

Absaroka Folio, Wyoming (Crandall and Ishawooa Quadrangles).
Geologic Atlas of the United States, U. S. Geological Survey, Folio
No. 52, 1899.

By J. E. WOODMAN:—

Studies in the gold-bearing slates of Nova Scotia. *Proc. Bost. Soc.
Nat. Hist.*, Vol. xxviii, 1899, No. 15, pp. 375–407.

Ore-bearing schists of Middle and Northern Cape Breton. *Report of
Department of Mines of Nova Scotia*, for 1898. Halifax, 1899.

By A. W. GRABAU:—

Moniloporidae, a new family of Palaeozoic corals. *Proc. Bost. Soc.
Nat. Hist.*, Vol. xxviii, No. 16, 1899, pp. 409–424, 4 pl.

Geology and Palaeontology of Eighteen Mile Creek, and the Lake Shore
sections of Erie County, New York. *Bull. Buffalo Soc. Nat. Sci.*, Vol.
vi, Nos. 2, 3, 4, 1899, pp. 307, 263 cuts in text, 1 pl.

Lake Bouvé, an extinct lake in the Boston Basin. Occasional papers.
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By H. T. BURR and R. E. BURKE:—

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ROBERT DE C. WARD, *Chairman*,

THE PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY AND ETHNOLOGY.

TO THE PRESIDENT OF THE UNIVERSITY :—

SIR, — The usual activity in all departments of the Museum has been maintained during the past year, and, thanks to friends, many and valuable accessions have been received. The crowding of the halls and cases, to which reference was made in the last report, has become of serious concern; and this condition must continue until relief is given by the completion of the building as originally planned.

Now that the south corner of the University Museum is in progress of erection there will remain only one hundred feet of the south wing to be built in order to complete the structure as planned by Agassiz over forty years ago. This space is the part allotted for the extension of the Anthropological section of the University Museum. It is hardly possible that the friends of the University will permit the completion of the structure to be long delayed, especially when it is made known how much the additional space is needed for the proper exhibition and utilization of our collections. This material, brought together during the past thirty-four years from many and varied sources, is beyond price, as a large part of it could not now be obtained. It is invaluable for the study of man in prehistoric times and for the illustration of the life and customs of the savage and barbarous peoples of the world. Moreover, it should be remembered that the archaeological collections have been formed, to a very great extent, by trained explorers sent out by the Museum, and that such collections cannot be duplicated. Among these are the collections from the Delaware valley, the shell-heaps of New England and of Florida; the ancient cemeteries on the Santa Barbara Islands; the mounds and ancient village sites of Ohio, Tennessee, Missouri, and Arkansas; the Hemenway collection from the ruined pueblos in Arizona; and the extensive collections obtained in Mexico and Central America, and in Peru and other parts of South America. Besides the collections pertaining to American archaeology, there are those made by Mortillet and Clement from the Swiss Lakes, from the Caves of the Dordogne, and from various places in Europe, including a series of palaeoliths from the Valley

of the Somme. In these notable collections are several specimens collected by Boucher de Perthes, and several types figured in the publications of Mortillet. The Nicolucci collection from Italy and the Rose collection from Denmark are also important and authentic collections of great value for comparative study with corresponding objects from America.

Much of the ethnological material was collected from fifty to over a hundred years ago, from our Indian tribes and from foreign lands, before the advance of civilization and the extension of commerce changed the life and customs of the native races. Gradually the ethnological collections formed by many early societies have been secured, and the Museum now holds as a sacred trust the collections from the Boston Marine Society, the Boston Athenaeum, the Massachusetts Historical Society, the Boston Society of Natural History, the Museum of Comparative Zoölogy, the American Antiquarian Society of Worcester, the Hemenway Southwestern Expedition, and, most recent of all, the invaluable collection from the Boston Museum. This material is all of special importance owing to the early date of its collection, and it has been supplemented by thousands of specimens from other sources and from later times, particularly by those received from Dr. Alexander Agassiz during his researches among the Pacific Islands. Such collections as these, both archaeological and ethnological, together with the extensive series of skulls and skeletons, should be considered at their full worth and importance. A university with such treasures in its keeping should not long be in want of suitable accommodations for their proper care and for their use in research and in instruction. Surely some generous hand will be extended to provide the means for the completion of the building so urgently required.

During the past year the work in Central America has been successfully continued, by the generous contributions of Mr. Charles P. Bowditch, Mr. Stephen Salisbury, and a few other friends. Mr. Bowditch has as heretofore taken a great interest in this region, and has given much time and thought to the direction of the work. There have been received from Mr. Maler numerous photographs and moulds of sculptures from ruins in Central America which furnish important additional material for the study of Maya hieroglyphs and sculpture; also a number of objects from the little known Lacandons of Lake Pethá. Mr. Thompson has sent from Yucatan a number of moulds and a few casts colored in facsimile of the original sculptures; also a copy of a mural painting found in a ruined building at Chichen-Itza. Thanks to President Sierra of

Honduras, — whose intelligent interest in archaeology and in everything that pertains to the history of his country leads him to encourage scientific research, — the Museum was able to send Mr. Gordon to Copan to complete the investigation of the great Hieroglyphic Stairway on the face of the pyramid known as "Mound 26 of the Main Structure" of this prehistoric city. Mr. Gordon was successful in clearing the debris from the portion of the stairway which is still intact, and in making photographs and moulds. With the moulds made in previous years of the upper steps, which had slipped down over the lower portion of the stairway, we now have moulds of the face of all the steps as well as portions of human figures which once stood in various positions on the steps of this impressive approach to the top of the pyramid where probably there once stood an important building.

In connection with the explorations at Copan, Mr. Bowditch has given to the Museum a model of the ruins made to scale by Mr. C. C. Willoughby from the photographs, plans and drawings by the several expeditions of the Museum. This model, which is in a separate case in the Central American Hall, enables one to understand the plan and structure of the ancient city and the position of the pyramids, buildings, plazas, monoliths, and various large sculptures to an extent that would be impossible from photographs and general plans. It also impresses one with the size of the great pyramids and courts, and shows the section of the main structure exposed by the washing away of a portion by the river, where the earlier walls and floors indicate a lengthy occupation of the site. Such models are very instructive; and the precision of execution in this one is most creditable to its maker. It is an attractive feature in the hall.

Similar models of some of the cliff houses, pueblos, and ruins of pueblos in the southwest, the relief map of the Province of Tusayan, the model of the Serpent Mound, and those of ancient burial places in Maine are, each in its way, of great value for illustrating facts in archaeology. It is intended to have similar models of some of the great earthworks of the Ohio Valley, and also of typical mound structures, for which the necessary data were obtained several years ago during my explorations in Ohio.

By the bequest of Henry Clarke Warren, who died on January 3, 1899, the Museum receives the income of \$10,000 which can be used "for carrying on explorations." Mr. Warren was always a welcome visitor to the Museum, and I recall that on one occasion he expressed his appreciation of our methods of exploration, and said to me.

"Such work ought to be encouraged." This manifestation of interest in American archaeology is all the more gratifying when we consider his special interest in Indo-Iranian studies.

The first year's income of the Warren Fund was appropriated to assist Dr. Frank Russell in his researches in Arizona during the past summer. Unfortunately Dr. Russell was not permitted by the Indian Department to make the exploration of a particular ruin as he had planned; but he was able to examine a large number of ruins of which he took photographs, and to secure a collection of several hundred specimens of various kinds and a number of skeletons from different places in Arizona. He also obtained much archaeological and ethnological information which will be useful in his instruction in this department.

The income of the Huntington-Frothingham-Wolcott Fund for the past year was devoted to the purchase of gold figures and ornaments found in ancient graves in Colombia, S. A. The first year's income of this fund was applied, in 1892, to the purchase of a collection of pottery from the Cauca Valley, and the gold objects now secured will further illustrate the arts of the ancient peoples of that region.

Miss Alice C. Fletcher, the holder of the Thaw Fellowship, has continued her researches relating to Indian ceremonies and rituals. Unfortunately her Omaha studies have been interrupted by the theft of the Sacred Buffalo Hide and other articles belonging to the Sacred Tent. Just as these articles were, according to promise, to be made over by their aged Omaha keeper to Mr. LaFlesche for permanent deposit in the Peabody Museum with all the other sacred objects of the tribe, they were stolen from the old Indian and sold. After a long search these objects have been located, by Mr. LaFlesche; they having been purchased by a gentleman who was not aware that they had been stolen. It is believed that their present possessor will soon make them over to the Museum, and thus not only allay the fears of the Indians which have been aroused by the theft, but also do his part in bringing the whole collection of sacred objects together as intended by the former Omaha keepers. Here they will illustrate in full the long and important ceremonial with its accompanying rituals, the gathering of which has taken years of labor on the part of Miss Fletcher and her colaborer, Mr. LaFlesche who is himself an Omaha. As soon as these objects are received the ceremonial rituals will be published, — without them to illustrate it the story of the ceremonial would not be complete nor would it be fully understood.

Last spring Miss Fletcher visited the Pawnee tribe in Oklahoma, where unusual opportunities were offered her for the study of an old ceremony then taking place. At that time she arranged with the principal chief of the rite to visit her this fall when graphophone records of the songs and rituals will be secured and further explanation will be obtained from the priest, so that this ceremony can be presented as complete as possible. During the year Miss Fletcher has published a little volume, entitled "Indian Story and Song," which gives in a pleasant and graceful manner the thoughts of the Indians as expressed by their stories and songs.

Mrs. Zelia Nuttall has been engaged in carrying through the press her comparative researches on the Old and New World civilizations. The work has grown far beyond her first intention, and has reached a volume of several hundred pages. This instructive paper will soon be published as Volume II of the octavo series of the Museum. It will prove an incentive to further research in the lines followed by the author, and it will awaken a new interest as to the origin of the ancient civilizations of Mexico and Central America.

The appointment of Mr. C. C. Willoughby as Assistant Curator of the Museum, and also to an Austin Teaching Fellowship, is in recognition of his services in the Museum, where his labors for the past six years have been faithful and important. During the past year Mr. Willoughby has rearranged several of the collections adding to the exhibits many specimens recently received. He has done much to preserve the great mass of perishable ethnological material from injury, and has seen to the printing of a large number of labels which have been placed in the cases. He has also prepared a number of explanatory maps, and in various ways given finishing touches to many of the exhibits, so far as the crowded condition of the cases permits. He has attended to the cataloguing of all the new accessions, and as fast as possible he is bringing out collections, long in storage, for systematic record and cataloguing.

In these labors Mr. Willoughby has had the assistance of Mr. Albertus L. Dakin, a student assistant, who is thus obtaining a practical knowledge of museum work, and a familiarity with specimens which will prove of great benefit to him in his further studies. In connection with this work Mr. Dakin has made a card catalogue of the large number of photographic negatives belonging to the Museum, and he is now preparing a subject catalogue of papers on American archaeology and ethnology.

The Cuban teachers in attendance at the summer school visited the Museum in large numbers. On two occasions I addressed them

in the Lecture Hall on the purposes and contents of the Museum, and on the subject of the pre-Columbian peoples of America, urging them, on their return to Cuba, to take up the study of the archaeology of their island about which so little is known.

It was my good fortune during the past summer to again visit New Mexico, in connection with the work of the Hyde Expedition of the American Museum of Natural History, where I was able to make a further study of many ruins of large pueblos and small isolated groups of stone houses. My special study this year, as last, was in relation to the antiquity of the different classes of structures in the cañons and on the high mesas. For this purpose I visited many ruins on the mesas, and found evidences of antiquity corresponding to that of the ruins in the cañons, also many facts showing the contemporaneity of several of the mesa and cañon groups and the unity of their builders.

Continuing my trip to California, I passed a week in careful study of Bald Hill and its surroundings in Calaveras County, in connection with the facts relating to the famous Calaveras skull, which, after the death of Professor J. D. Whitney, came into the possession of the Museum. At this time I am only prepared to state that after a careful sifting and cross-questioning in regard to the several stories told at Angels Camp, both pro and con, as to the finding of the skull, I am convinced that they are not worthy of consideration as evidence. It may be impossible ever to determine to the satisfaction of the archaeologist the place where the skull was actually found. I have, however, brought from the old Mattison mine samples of all the materials passed through in sinking the shaft. I have also gathered gravel from several places in the neighborhood of Bald Hill and in Salt Spring Valley for comparison with the gravel taken from the skull. An expert investigation of the materials will be made and the results will in time be announced. Probably the most important result of my visit to California is the interest awakened in this subject by an address delivered at the University of California. The antiquity of man in California should now be solved by the careful investigation of the scientists of the University during the mining work which is starting again in the auriferous gravels in the adjoining Tuolumne County. Many implements and some human bones are said to have been found during the former working of this gravel.

While in Columbus, Ohio, in 1899, I had several conferences with the officers of the Ohio State Archaeological and Historical Society in relation to the transfer of the Serpent Mound Park to the keeping

of the State Society, provided a proper guarantee of its perpetual care could be made. As a result of these conferences and later correspondence, the Society, after having obtained from the Ohio Legislature an appropriation for its care including the employment of a custodian of the Park, agreed to take the Park into its charge. This plan was suggested to the Faculty of the Museum, and it was voted to advise the President and Fellows of Harvard College to transfer the fee of the Serpent Mound Park to the State Society on the following conditions:—

(1) That the Society provide for the perpetual care of the Serpent Mound, and for keeping the Serpent Mound Park as a free public park, with penalty of reversion of the property in case of neglect of these conditions.

(2) That the Society shall place in the Park a suitable monument or tablet, upon which shall be inscribed the record of the preservation of the Serpent Mound and the transfer of the property to the State Society.

At a meeting of the Corporation of Harvard College held on May 15, the President and Fellows voted to transfer the fee of the Serpent Mound Park to the State Archaeological and Historical Society of Ohio, in accordance with the suggestion of the Museum Faculty. The Ohio Society gladly accepted these conditions and the legal transfer was made.

The act of the Museum, fourteen years ago, in preserving this, in many ways, most important of all the earthworks in Ohio, and the securing of a state law relating to the exemption of ancient monuments and the adjacent land from taxation, aroused attention in the state and led to the purchase of Fort Ancient, thus preserving that great prehistoric earthwork. It also led to the protection of several other noted works. It is hoped that the state will now have a further incentive to secure as public reservations a number of the more important earthworks which otherwise will be destroyed.

Two students in this division of the University were given the degree of doctor of philosophy at the last Commencement Day: John R. Swanton, A.B., A.M., of Harvard, and formerly Winthrop Scholar and Hemenway Fellow, whose thesis was on the Morphology of the Chinook Verb, has been very successful in his studies of Indian languages, and has been employed for the past two years by the American Museum of Natural History in research among several Indian tribes. Dr. Swanton has recently been appointed an assistant in the U. S. Bureau of Ethnology, where he will continue his researches upon Indian languages.

Roland B. Dixon, A.B., A.M., Harvard, and formerly Winthrop Scholar and Hemenway Fellow, and Assistant in Anthropology, whose thesis was upon the language of the Maidu Indians of California, passed one season with these Indians, under the auspices of the American Museum of Natural History, returning to Cambridge to deliver his lectures in the course on Prehistoric Religions during the second half-year. The past summer he returned to California to continue his studies of the Indians in connection with the work of the American Museum. Dr. Dixon was reappointed Assistant in Anthropology, and in January he is to go to Berlin to continue his studies preparatory to further work in instruction in this Division.

Dr. James Haughton Woods has been appointed Instructor in Anthropology for the present College year, and he is to take charge of the course on Primitive Religions during the second half of the year.

Mr. Alfred M. Tozzer, A.B., Harvard 1900, and Winthrop Scholar, has entered this Department, and is now in the field in California with Dr. Dixon, where he is studying the languages of several Indian tribes.

It is with regret that I record the death of Mr. Allen Cooke at Iloilo, Philippine Islands, on March 23d, 1900. Mr. Cooke was a special student in 1891-93, and he had an abiding love for archaeology. He enlisted for the Spanish war and served in Cuba, and later in the Philippines, where he hoped to be of service to the Museum in making an ethnological collection.

The most valuable single gift received by the Museum, during the past year, is the large ethnological collection from the South Sea Islands collected by Dr. Alexander Agassiz and Dr. W. McM. Woodworth, while on the expedition of the U. S. Fish Commission S. S. Albatross in 1899-1900, and presented by Dr. Agassiz. The specimens were in large part gathered directly from the native peoples, and comprise very complete illustrations of the life, customs, and costumes of natives of several groups of islands. Among the most rare and interesting objects from the Fiji Islands are several old Kava dishes, including priests' Kava cups, and the dishes for holding oil used in anointing the body; old Kali pillows; several old spears; a very old and rare shell breast ornament; fine specimens of tapa cloth with board for printing tapa; and numerous clubs and other weapons. From the Society Islands, a child's tapa dress; old pestles used for making poi; mats; and basketry. From the Savage Islands, a canoe; mats; casting stick used in a game; and several weapons. From Cook Island, tapa cloth mats; and a large

number of ceremonial adze-blades. From Ellice Islands, costumes; cocoanut scrapers; canoe models; fish hooks and lines. From Marshall Islands, a large representative collection, including native dresses and ornaments; a fine assortment of necklaces; shell scraper for preserving pandanas fruits; large number of native mats; large model of trading canoe with sail; ornaments used on bow and stern of large trading boat; adzes with shell blades; cocoanut water-bottles; cordage of many kinds; fish trap; shell pounder for preparing pandanas fibre for making mats; sets of calking tools for calking large boats; drums; and a complete dress of one of the chiefs. From the Gilbert Islands, models of native sailing charts; two complete sets of old cocoanut fibre armor, including head gear; a collection of old spears and knives with shark's teeth; specimens of matting and of basketry; articles of personal ornament, dance belts, the latter made of cetacean teeth strung together. From Caroline Islands, native dresses, including woven sashes; two looms complete, showing method of weaving; number of belts made of shell beads and of cocoanut shell; ear ornaments made of strings of cocoanut shell rings; tortoise shell bracelet; wooden combs; canoe ornament; fish hooks; small canoes used by the natives in racing.

Also from Dr. Woodworth (Harvard 1888), a Samoan head-dress and an Australian shield; and from Dr. Alfred G. Mayer (Harvard 1897), also of the Agassiz expedition, 49 photographs taken by him of native peoples, houses, and boats, principally from the Gilbert, Marshall, and Caroline Islands.

The Museum has received (by Mr. John Kimball) from the heirs of Moses Kimball, the donors of the valuable Boston Museum collection mentioned in last report, two long shark-teeth spears from the Gilbert Islands. From the Fogg Art Museum, 22 photographs of Egyptian mummies. From Mr. A. W. Robinson of Boston, club or baton made from bone of whale from Alaska. From the Curator, 34 photographs of ruins in New Mexico. From Mr. E. S. Drake, 4 stone knives from Georgia. From Mrs. Edward S. Philbrick, Egyptian gold ring, scarabaeus, and a silver ring. From Mr. Clarence B. Moore (Harvard 1873), 11 shell implements from the west coast of Florida. From Miss Isabelle Batchelder, tapa cloth from Polynesia. From Dr. George W. Nash (Harvard 1878), a cloth cap from the Fantu tribe of West Africa. From Mrs. Francis-L. Hobert, copy of original Indian deed of town of Braintree, dated 1665. From Mr. Lucien Carr, 3 pieces of Barras pottery from the Hebrides Islands, and a stone (owl) pipe from Butler County,

Kentucky. From Mr. P. B. Randolph, fragments of pottery from Nanvaranok River, Alaska. From Mr. F. F. Burr, shells, bones, and potsherds, and part of child's skeleton from shell-heaps at Squantum, Mass. From Mr. E. H. Harriman of New York, on solicitation of Dr. Charles Palache a member of the expedition, a Haida totem pole from Cape Fox Valley, Alaska, collected by the Harriman Scientific Expedition in 1899. From Mr. J. B. Woodworth (Harvard 1894), stone pestle found by him at Glad Tidings Plain, Mass. From Mr. W. M. MacVicar, a birch-bark box, ornamented with split spruce roots and porcupine quill work, which was made before 1800 by the Micmac Indians of southern Nova Scotia, and has been in Mr. MacVicar's family for at least a hundred years. From Mr. E. S. Golson, a stone knife and drill, terra-cotta pipe stem, worked bone, and a bear's tooth, from village site in Saganaw, Michigan. From Mr. William Arthur Dupee (Harvard 1894), a canoe from the Philippine Islands. From Miss Annie Hibbard, a polishing stone from Fort McDowell, Arizona.

From the members of Brown University Expedition to Labrador in 1900, we have received the gift of an ancient Eskimo stone lamp, which was purchased from the Moravian Brother, Squire Townley at Hebron. This lamp is believed by the Eskimo to have been used in public ceremonials. There is only one other similar lamp known on the coast. This expedition was under the charge of Professor E. B. Delabarre of Brown. The Harvard contingent consisted of Dr. R. A. Daly, Instructor, and the following students: Huntingdon Adams, H. B. Bigelow, L. B. McCormick, and H. Palmer. Mr. Townley also presented two fire-making stones (pyrites) found in an Eskimo grave near Hebron, and Dr. Daly, a sample of "Labrador cotton" used in connection with the fire stones in making fire.

3,600 numbers have been added to the catalogue during the year, including all the recent accessions.

Miss Smith reports that 84 volumes and 73 pamphlets on anthropology have been added to the Museum Library during the year. Among the more important gifts of books are the following:—

From the Duke of Loubat, a copy of the reproduction, in 1900, in fac-simile, of the Codex Rios, also known as Codex Vaticanus 3738. This generous patron of American archaeology has thus made another ancient Mexican manuscript available to students.

From Señor Alfredo Chavero of Mexico we have received the following volumes, "Interpretación del Códice Borgia:" a posthumous work by Padre José Lino Fábrega, edited and annotated by Chavero, with an Appendix by Chavero on the Astronomical Gods of the

Ancient Mexicans. "Historia de Tlaxcala," by Diego Munoz Camargo: annotated and published by Chavero. "Antigüedades Mexicanas," quarto text and folio plates, published by the Columbian Junta of Mexico, 1892.

From Dr. Francisco del paso y Troncoso, Director of the National Museum of Mexico: "Descripción historia y exposición del Códice Pictórico de las antiguos Náuas."

From Mr. Clarence B. Moore, "Antiquities of the Florida West Coast," giving an account of his last Floridian exploration.

The field work in Yucatan and Central American has been carried on by special subscriptions. Mr. C. P. Bowditch has acted as treasurer and has met all the expenses of the expeditions. A considerable portion of the money is to be used in paying for publications relating to Mexico and Central America, which are now in progress. To Mr. Bowditch's interest in this work we are under lasting obligations. The money he thus receives and expends, in addition to his own contributions, has secured a large amount of valuable material for the Museum, thus adding greatly to the importance of the collections illustrating the ancient civilizations of America.

The following gifts for the general purposes of the Museum have been received by the Curator and made over to the University Treasurer, who has used the amount in part payment of the salary of the Assistant Curator:—

From Clarence B. Moore	\$500
" Augustus Hemenway	150
" John C. Ropes	100
" Mrs. N. E. Baylies (annual subscription)	25
	<hr/>
	\$775

I cannot close this report without again referring to the inadequacy of the small income of the Museum funds to meet the current expenses, and again appealing to our friends for their much needed assistance.

F. W. PUTNAM,
Peabody Professor and Curator
of the Peabody Museum.

CAMBRIDGE, Nov. 6, 1900.

THE SEMITIC MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—A year ago I reported a gift of \$50,000 from Mr. Jacob H. Schiff for the erection of a Semitic Building. In December, 1899, several sketches were submitted by the architect, Mr. A. W. Longfellow, and Mr. Schiff preferred one which in all probability would cost more than \$50,000. When this sketch was developed into detailed plans, and estimates obtained thereon, it appeared that the cost would be about \$63,500. Mr. Schiff approved both plan and price, generously offered to provide the additional sum, and expressed the hope that the building might be completed by the autumn of 1901.

A fortunate change of site caused some delay in beginning the construction. The site originally chosen, though it seemed at the time the best then available, was not free from objections. During the summer of 1900, the President and Fellows purchased a better building lot on the eastern side of Divinity Avenue, facing the original site. This allows better light and ventilation, without the crowding which was unavoidable in the other site. Ground was broken on Sept. 27, and the work is now progressing favorably.

The building will have a front of 81 feet, and its greatest depth is 84 feet. The first floor will contain three lecture rooms and the library room; the second floor, the curator's room, and an exhibition room 77 × 51; the third floor, an exhibition room of the same size, and a smaller room, which may be used for exhibits or as a work-room.

The accessions to the collections of the Museum the past year have been as follows: ten fragments of Hebrew manuscripts of the Torah, given by Hon. Isidor Straus, acquired by him on a recent visit to Constantinople; twenty-three manuscripts and fragments of manuscripts, mostly Syriac, partly ancient and partly modern copies of ancient works, bought from Mrs. Isaac H. Hall, of New York; two large Syriac manuscripts from Armenia, one a New Testament Lectionary of the Harklean type, supposed to be from the 11th century, the second, a Service Book of the 11th or 12th century; three objects from Upper Egypt, including an antique terra cotta lamp and a portion of a small blue statuette of Osiris, given by Professor C. H. Toy; a black cloak as worn in the cities of Pales-

tine, given by Mahmoud el-Husseini, of Jerusalem; a panel of nine enamelled tiles, believed to be about 400 years old, from the Omayyade Mosque at Damascus, and an antique terra cotta lamp from a tomb near Haifa, in Syria. The tiles and the lamp were acquired by purchase.

The additional cabinets and cases referred to in the last report have been completed and filled, and the objects belonging to the Merrill collection, so far as they are exhibited, have been brought together in one of the alcoves of the Museum.

Provision has been made for exhibiting in the Museum a small collection of Egyptian objects which have long been in the hands of Rev. Dr. E. E. Hale, and it is hoped that this collection may soon be in place.

During the months of June and July, a good deal of time was devoted to cataloguing and labeling the more recent accessions to the Museum. There still remain to be catalogued the Merrill Collection and the contents of the boxes which for lack of space have not yet been opened.

No systematic effort has ever been made to ascertain the extent to which the Museum is used. A record was kept for portions of certain days during the past summer. On July 10th, there were 13 visitors between the hours of 9 and 12 A.M., and 54 visitors between 2 and 5 P.M. While this is doubtless beyond the average, it is clear that the Semitic collections are of interest to a great many persons. This interest to the general public and the usefulness to the students will be much increased when the collections are better displayed in the new building.

Hitherto, purchases have been made by the Curator on his own responsibility, with such advice as he could obtain. Hereafter he is to have for all larger purchases the benefit of the advice of a committee. This new committee, appointed by the President and Fellows, consists of the same members as the committee appointed by the Overseers to visit the Semitic Department, strengthened by the addition of Professor C. H. Toy.

It is to be hoped that the time is not remote when the Curator can spend a year abroad in the interest of the collections of the Museum. It was his purpose to do this during the current academic year, but unforeseen conditions made a change of plan necessary.

Dr. John Orne, curator of Arabic manuscripts, has continued his work of cataloguing the manuscripts belonging to the Museum.

D. G. LYON, *Curator.*

THE FOGG ART MUSEUM.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR,—I have the honor to submit the following report on the Fogg Art Museum for the year 1899–1900:

Mr. E. W. Forbes ('95) has added to the objects deposited by him in the Museum a colossal head in red marble of undetermined character, but having the style of later Greek, or Greco-Roman, workmanship, and four paintings as follows: A Madonna and Saints, in tempera on a gold ground, by Benvenuto da Siena; a Madonna and Child, in tempera on a gold ground, attributed to Pinturicchio; a Madonna and Child, with the Infant St. John, which is an oil painting of the Venetian school; and an Ecce-Homo in oil color on canvas, attributed to Murillo. These paintings are of varying importance; but the three Italian ones are valuable additions to our collection, and the one by Benvenuto da Siena is of great importance as a genuine and very fine example of early Italian religious art. It is a large panel, about 7 by 8 feet in size, exceedingly beautiful in color, and wrought with the care, and the minute elaboration, which characterize the works of the central Italian schools of the fifteenth century. The design is of the symmetrical type so peculiar to the primitive style, and though not free from archaisms, it has a fulness of tone, and a strength of modelling, that approach the same qualities in the most developed Italian art, while in sentiment and expression it has an impressiveness that is rarely found in the works of a later epoch. This picture is in good condition except for the blistering of some parts consequent upon the warping of the boards of which the panel is composed. It has been for a year in the hands of an expert in London, who has skilfully repaired the injured parts, without subjecting other parts of the work to any retouching. In one or two small places the *gesso* shows signs of fresh injury, probably due to the jarring of transportation, but no part of it has flaked off, and as it is now sealed up under glass, and placed in a room which is kept at a low temperature, we may hope to preserve it in its present condition. The panel attributed to Pinturicchio is a small one with good qualities, and is in excellent preservation.

The Venetian painting is apparently a school picture, and though poor in drawing, it is fine in color, and on the whole a valuable addition to our collection. The University owes a debt of gratitude to Mr. Forbes, not only for the initiative which he has so generously taken in providing our Museum with original works of art of the great historic schools, but also for the high standard which he has set in the works already secured.

During the year the Fine Arts Department has acquired, and deposited in the Museum, the following original works of the early English water-color school: two drawings by Samuel Prout, Ypres and Ratisbonne; two drawings by John Ruskin, Abbeville and Aix la Chapelle; and a water-color drawing by J. M. W. Turner, a Mansion with Wooded Grounds. This last is an exceptionally fine example of Turner's early manner, dating from about the year 1800. The Fine Arts Department has also acquired, and deposited in the print collection, nine etchings of the *Liber Studiorum* by Turner, comprising the following subjects: Ben Arthur, Stork and Aqueduct, Martello Towers, Isis, Flint Castle, London from Greenwich, Premium Landscape, Crowhurst, and Plowing, Eaton. Impressions from the plates of the *Studiorum* in the etched state are rare and costly. They are, in most cases, the work of the master's own hand, and are among the finest, and most instructive, examples of landscape delineation that have ever been produced.

To the Gray Collection of Engravings have been added by purchase from the Boston Museum of Fine Arts, Dürer's *Passion*, on copper, comprising sixteen prints, and the following plates of Turner's *Liber Studiorum* in the etched state: *Windmill and Lock*; *Inverary Pier*; the design from Spencer's "*Fairy Queen*"; *Mildway Sea Piece*; *Dumblain Abbey*; *East Gate, Winchelsea*; *Æsacus* and *Hesperie*; and *Icis*.

To the Randall Collection no additions were made, as the income of that collection has at present to be used for the expenses of mounting, remounting, arranging, and cataloguing.

It will thus be seen that we are making steady and gratifying though necessarily slow, progress in the formation of a valuable and even choice, working collection of original works. Our acquisitions thus far are all of permanent, and some of them are of high value. It should be our aim to limit our accessions strictly to such works as are, by general agreement of competent judges, recognized as excellent, or of historic and educational importance.

One thousand eight hundred and twenty-nine photographs have been added to the collection during the year, making the total

number of photographs in our cases 29,199. The new accessions comprise: Ancient Greek and Greco-Roman architecture and sculpture, including all photographs that have been issued by the German Institute, except such as we already had; the Jacobsen Collection of Copenhagen; and the collection of the Berlin Museum.

To the collection of slides 533 additions have been made, illustrating Mediaeval Italian and Mediaeval French architecture and sculpture, Arabian sculpture, Italian, French, Flemish, Dutch, and German painting; ancient Egyptian architecture, sculpture, and painting; ancient Assyrian and Greek architecture and sculpture; German architecture and antiquities; English and French stained glass, and ancient painting and mosaic.

The number of visits to the Museum of persons seeking access to photographs from the cases was 1,031. Of these visits 586 were by members of Harvard University. Photographs were loaned for use outside of the Museum to members of the University and others, 141 times. Among the borrowers were: the Department of Architecture, Radcliffe College, the Institute of Technology, and the Boston Latin School. Slides were loaned to members of the University and others, 22 times. The number of photographs mounted and remounted in our work-room was 2,982.

The number of photographs catalogued during the year was 2,819. The number of slides catalogued was 554. The extensive reference list of portraits in the collection of photographs, which was begun last year, has been completed, and the other subject lists have been made as follows: Mediaeval English architecture (classified by styles), Byzantine sculpture, and Mycenaean art. A list of Greek sculptures by galleries has also been begun, and the writing was transferred from the old mounts to the new, of all the remounted photographs. During the summer the entire collection of photographs was examined, and every one was found in its place or was accounted for.

The work on the print collections has gone on steadily. A catalogue of the Gray Collection by designers (we had previously catalogued this collection by engravers), begun last year, has been completed. The final sorting of the Randall Collection has been completed, and the more valuable prints have been mounted and permanently arranged in the storage cases. A catalogue of this collection by engravers has been begun, and carried on to the extent of 1,511 numbers. The total number of prints, in both the Gray and Randall Collections, mounted and remounted during the year was 3,041.

The number of visits to the print collections for access to prints not exposed to view on the walls was 102. Of these 58 were by men, 44 by women, and 47 by members of Harvard University.

Early in the year it was found that the panels of the Forbes Collection were suffering from the heat and dryness of the air in the gallery where they were hung. They were immediately placed in a cold room until suitable air-tight glazed cases could be prepared. In these they were sealed up and replaced in the gallery, which is now kept at a low temperature.

As time goes on, and we are beginning to acquire important works of art, the defects of our handsome building become more embarrassing, and the need of radical alterations becomes urgent. Our chief trouble arises from lack of light. So long as our collections consisted mainly of photographs and prints, it was possible to get along tolerably well by placing the storage cases against the ill lighted walls, and the working tables under the sky-lights. But for the paintings now coming to us, which have to be hung on the walls, there is no favorable light in any part of the Museum. Large paintings, like the important one just added to the Forbes collection, cannot be seen at all in any proper sense. The upper portion of this superb early work is so shaded by the flat ceiling that even the larger details of it cannot be clearly made out by the eye in any general view of the whole. And the difficulty of viewing the picture is further increased by the reflection of the low sky-light in the glass which covers it. It is very much to be regretted that we are unable to display such a work of art as this so that its fine qualities may be appreciated.

The low flat top light is not only ill placed and insufficient, but it subjects us to great annoyance and inconvenience in times of snow-fall. At such times the gallery is completely darkened. To remedy this most serious defect of our building, I would recommend that the present roof be entirely removed, and a hipped-roof constructed in its place, with sky-lights at least ten feet higher than the present ones, and with no horizontal ceiling inside. Such a change would give us enough light at all times on all parts of the walls. It would also much improve the general architectural aspect of the building.

Another cause of inconvenience, which increases with the growth of our collections, is the lack of any suitable place for receiving and unpacking cases. The only way of access for large cases at present is through the front door, or one of the side doors, directly into the main exhibition hall of sculptures and casts, where the rough work of opening them has to be done on the handsome mosaic pavement.

And there is no place where new acquisitions can be safely kept while being made ready for exhibition, unless we use for this purpose, as we are now obliged to do, one of the smaller exhibition rooms, which has to remain closed sometimes for weeks. The vast basement was rendered useless by being made practically devoid of light, and by having no way of access from the outside. We have already been obliged to open two large windows on one side of this basement in order to get a place where the work of mounting and remounting photographs and prints could be carried on. By treating the corresponding portion on the opposite side in the same way, and by making in it an outside door, a tolerably convenient place for receiving and unpacking cases, with the requisite space and enclosure for the safe keeping of objects while in course of preparation for their permanent places in the Museum, might be obtained.

CHARLES H. MOORE, *Director*.

MINERALOGICAL MUSEUM AND LABORATORIES OF MINERALOGY AND PETROGRAPHY.

TO THE PRESIDENT OF THE UNIVERSITY:—

SIR, — The usual courses of study in this department were given by Drs. Palache and Eakle, who assumed the work of the Curator during his year's absence in Europe.

A much needed aid to the ventilation of the Mineralogical laboratory was obtained by a system of forced draught by an electric fan.

The collections of minerals and rocks were principally augmented by acquisitions made by the Curator in Europe by purchase, exchange, and direct collection; thus a number of the rarer European minerals were obtained and much material from the older localities for teaching and other purposes. Two large and valuable collections of rocks were made in the Pyrenees and in Auvergne, including much duplicate material of value for instruction, so that it is now possible by utilizing these and other duplicates from the various rock collections to introduce for the teaching of petrography the same system of study drawers of rocks which have so long been used for minerals.

Several additions have been made to the apparatus, including some of the newer chemical appliances for mineral analysis, an Abbé crystal-refractometer for the determination of the indices of refraction, and a valuable set of optical sections of minerals, which were selected from the stock of Steeg and Reuter at Homburg.

The Curator visited many of the principal museums of Europe and spent six months engaged in original research at Munich. He attended the celebration of the two hundredth anniversary of the Berlin academy of sciences as one of the American delegates, and also the international geological congress at Paris.

The following original papers were published:—

The crystallization of the calcite from the copper mines of Lake Superior, by CHARLES PALACHE. Geological Survey of Michigan, Vol. VI, Part II, appendix.

Note on Epidote and Garnet from Idaho, by CHARLES PALACHE. *Am. Journ. Sci.* October, 1899.

Contributions from the Harvard Mineralogical Museum:—

VI. On Hardystonite and Zinc Schefferite from Franklin Furnace, by J. E. WOLFF, with a note on the optical constants of the Schefferite, by Dr. G. MELCZER. *Proc. Am. Acad. of Arts and Sciences.* August, 1900. (Also published in German in the *Zeit. für Krystallographie.*)

JOHN E. WOLFF, Curator.

RADCLIFFE COLLEGE.

TO THE PRESIDENT OF THE UNIVERSITY: —

SIR, — I have the honor to present my report on the condition of Radcliffe College during the academic year 1899–1900.

The number of students in actual attendance during the year was 407, as against 421 during the preceding year.

Graduate Students	47
Seniors	63
Juniors	44
Sophomores	66
Freshmen	72
Special Students	116
Total	407

At the Commencement in June, 1900, sixty-three students, two of whom had completed their work in 1898–99 and had not been registered as Seniors in 1899–1900, received the degree of Bachelor of Arts. Twenty-five of the sixty-three received the degree *magna cum laude*; twenty received the degree *cum laude*. One Senior was prevented by illness from completing her work and failed to receive the degree.

Nine students received the degree of Master of Arts. Three of the nine had taken their first degree at Radcliffe; the others represented the following colleges: Colorado College, University of Iowa, Milwaukee-Downer College, Central College (Missouri), Smith College, Vassar College.

Examinations for admission were held in June, 1900, in Cambridge and New York; in Albany, Chicago, Cincinnati, Concord (N. H.), Denver, Exeter (N. H.), Fall River, Louisville, Philadelphia, Portland (Me.), Quincy, South Byfield, Springfield, Washington (Conn.), Washington (D. C.), and Youngstown (O.). They were also held in September in Cambridge. Three hundred and thirty-three candidates presented themselves for examination. Twenty-nine were candidates for admission as special students; fifty-nine candidates took part of the examination or worked off admission conditions; two candidates were examined for advanced standing; one hundred and forty-one candidates took the Preliminary Examinations, and one hundred and

two the Final Examinations. The results of the Final Examinations are given in the following table : —

	Admitted.	Admitted "Clear."	Rejected.
June	82	30	7
September	11	0	2
Total	93	30	9
Total rejected . . .	9		
	102		

Ninety-three candidates were admitted as Freshmen in 1900, as against one hundred and six in 1899.

Of the forty-eight Graduate Students thirty-nine were from other colleges than Radcliffe. One Graduate Student entered the Senior Class and received the degree of Bachelor of Arts. Thirty-one students were admitted to fourteen full courses, and fourteen students to ten half-courses of the "Courses primarily for Graduates in Harvard University open to competent students of Radcliffe College."

Sanskrit was taken	by two students.
Classical Philology was taken	by four students.
Germanic Philology was taken	by six students.
Romance Philology was taken	by one student.
History was taken	by two students.
Economics was taken	by two students.
Philosophy was taken	by two students.
Education and Teaching was taken	by fifteen students.
Fine Arts was taken	by one student.
Music was taken	by one student.
Mathematics was taken	by eight students.
Geology was taken	by one student.

The number of courses offered in 1899-1900 was 184½, by 115 professors and instructors in Harvard University.

The members of the Academic Board for 1899-1900 were: Professors Byerly (*Chairman*), Greenough, Mark, Wright, Macvane, B. O. Peirce, von Jagemann, Grandgent, and Kittredge, and the President and Dean of Radcliffe College.

The gifts during the past year have been few; some of them, however, have been peculiarly interesting.

Miss Eva Mackintosh, of England, the daughter of an American mother, sent us £250 (\$1,249.25).

The students of Radcliffe College collected for the running expenses of the Swimming-pool \$1,557.71, to which Mr. Henry S. Grew, through the Treasurer, added \$25.

Mrs. Harriet Lee Morse gave the College \$1,000 for the Monograph Fund. Mrs. Morse's previous gift of \$1,000 was to the Library in commemoration of Mrs. Ripley.

The Division of Modern Languages gave the College \$25 for books in modern languages.

Notwithstanding the lack of large gifts, the year has been a prosperous one, and the income has exceeded the expenses. The College has sustained a serious loss, it is true. In June, 1900, Mr. Joseph B. Warner resigned from the Council. Mr. Warner had been associated with the Society for the Collegiate Instruction of Women from the beginning; he played an important part at the time of the organization of the College; he has been an active and interested member of the Council, and his colleagues feel that no greater loss could have befallen that body. But the pressure of an exacting profession made it necessary for him to resign, and his resignation was accepted with the deepest regret. Mr. Warner will, however, continue one of the Associates, so that his counsel is not wholly lost to us.

During the year Radcliffe College has made the following purchases of property:—

From the City of Cambridge, the Quincy school-house, at the corner of Mason and James Streets, a two-story brick building with 8,469 square feet of land. For this we paid \$25,000. The building is now in use as a Botanical Laboratory.

Two houses on Appian Way, No. 12 and No. 18, with 5,830 and 5,460 square feet of land. These houses cannot be used for College purposes, and must be rented as dwellings.

From Willard Quincy Phillips, the Bemis heirs and others, all the land, with the exception of a lot on Walker Street, lying between Shepard Street, Linnaean Street, Walker Street, and the properties on Garden Street, in all about 303,250 square feet of land, with two houses, one on Walker Street, the other on Linnaean Street, both rented to advantage. On Shepard Street, within five minutes' walk of Fay House, the College proposes to build the dormitory, the money for which has been promised by Mrs. D. P. Kimball, and in the neighborhood of the first dormitory, it hopes some day to build others. The rest of the land will be used for open-air sports and exercise. A play-ground and a number of dormitories, desirable to-day, may become necessary to-morrow, and the growth of Cambridge is so rapid, land in the immediate neighborhood of the Colleges is so valuable and so scarce, that we feared to lose the opportunity afforded by the Phillips and Bemis estates. The sum paid is large, \$171,500, and only a small part will yield a return, so that the income from our capital will be much diminished, and we cannot expect the increase in the tuition fees for the coming year to counter-

balance the diminution of income from capital. It has always been a matter of surprise to those interested in our finances that the tuition fees have been so nearly adequate to meeting the expenses, but as time goes on and the College grows, we must depend less on the fees and more on the endowment. This means that we must look to the public to help us, and to help us generously. We are confident that we have their approval; we are sanguine that we shall have their support.

Miss Lucy Allen Paton (A.B. Radcliffe, 1892; A.M. 1894) has been a resident Graduate Student at Radcliffe College for four years, and has fulfilled such conditions of residence, study and examination as would, if she were a student in Harvard University, entitle her to the degree of Doctor of Philosophy. Her thesis "*Morgain la Féé: A Study in the Fairy Mythology of the Middle Ages*," was examined by Professor Sheldon, Professor Marcou, and Dr. Schofield, and considered by them to give "evidence of careful study and of original investigation" and to be "distinctly a contribution to knowledge." On the recommendation of Professor Sheldon, the Caroline I. Wilby Prize for the year 1899-1900 was awarded to Miss Paton, and, by vote of the Council, a formal announcement of such award was made at Commencement. At the same time and by vote of the Council, a formal announcement was made that Miss Paton "had satisfied all the tests which would be demanded in case of a candidate for the degree of Ph.D. in Harvard University."

AGNES IRWIN, *Dean*.

APPENDIX.

RESIGNATIONS.

- CHARLES BENEDICT DAVENPORT**, Instructor in Zoölogy, to take effect September 1, 1899. October 30, 1899.
- VINCENT YARDLEY BOWDITCH**, Instructor in Clinical Medicine. November 27, 1899.
- AUGUSTUS SMITH KNIGHT**, Assistant in Clinical Medicine. November 27, 1899.
- ELLIOT HERSEY GOODWIN**, Austin Teaching Fellow in Government. December 11, 1899.
- WILLIAM WHITWORTH GANNETT**, Instructor in Clinical Medicine. December 11, 1899.
- EDWARD PARRISH CARR**, Assistant in Philosophy. December 11, 1899.
- ROBERT GREENLEAF LEAVITT**, Assistant in Botany. December 11, 1899.
- DANIEL GREGORY MASON**, Assistant in English. December 11, 1899.
- JAMES REVERDY STEWART**, Assistant in Applied Zoölogy, to take effect February 1, 1900. January 29, 1900.
- ALFRED LUDWIG THEODOR SCHAPER**, Assistant Professor of Histology, to take effect September 1, 1900. February 12, 1900.
- OLIVER SAMUEL TONKS**, } Members of the Board of Examination Proctors,
JOSEPH PARKER WARREN, } May 14, 1900.
- JOHN CHARLES STATES ANDREW**, Member of the Board of Examination Proctors, May 28, 1900.
- ALBERT HITCHINGS NEWHALL**, Member of the Board of Examination Proctors, June 11, 1900.
- ARTHUR HOWARD WENTWORTH**, Assistant in Diseases of Children. June 11, 1900.
- RALPH BARTON PERRY**, Austin Teaching Fellow in Philosophy. June 26, 1900.
- EDWARD CUMMINGS**, Assistant Professor of Sociology, to take effect September 1, 1900. September 25, 1900.
- GEORGE NEELY HENNING**, Instructor in French. September 25, 1900.
- WILLIAM LYON MACKENZIE KING**, Instructor in Political Economy. September 25, 1900.
- HENRY FISKE LEONARD**, Instructor in Anatomy and Clinical Lecturer. September 25, 1900.
- WALTER GUSTAVUS WAITT**, Assistant in Chemistry. September 25, 1900.
- GEORGE BURGESS PIERCE**, Assistant in Anatomy. September 25, 1900.
- RICHARD SCHMIDT**, Assistant in the Library. September 25, 1900.
- DONALD FRANK CAMPBELL**, Instructor in Mathematics, to take effect September 1, 1900.
- CARLOS VALÉRIEN CUSACHS**, Instructor in Spanish, to take effect September 1, 1900.
- WALLACE BRETT DONHAM**, Assistant in Government, to take effect September 1, 1900.

- EDWIN LEE NORTON, Assistant in Philosophy, to take effect September 1, 1900.
 MICHAEL XAVIER SULLIVAN, Assistant in Chemistry, to take effect September 1, 1900.
 ABRAM PIATT ANDREW, Proctor, to take effect September 1, 1900.
 JOHN MASON BOUTWELL, Proctor, to take effect September 1, 1900.
 GOLDTHWAITE MAYNARD HIGGINSON DORR, Proctor, to take effect September 1, 1900.
 CHARLES GRILE, Proctor, to take effect September 1, 1900.

APPOINTMENTS.

[WITHOUT LIMIT OF TIME, OR FOR MORE THAN ONE YEAR.]

- CHARLES FRANCIS DORR BELDEN, to be Secretary of the Faculty of Law, from September 1, 1899. October 2, 1899.
 PERCY HARRINGTON TUFTS, to be Assistant in the Library, from September 1, 1899. October 16, 1899.
 ROBERT WHEATON COUES, to be Assistant Recorder, from September 1, 1899. November 13, 1899.
 JAMES LEE LOVE, to be Secretary of the Lawrence Scientific School, from January 1, 1900. November 27, 1899.
 WILLIAM LAMBERT RICHARDSON, to be Dean of the Faculty of Medicine. November 27, 1900.
 BYRON SATTERLEE HURLBUT, to be a member of the University Council. December 11, 1899.
 WILLIAM COOLIDGE LANE, to be a member of the University Council. December 11, 1899.
 BENJAMIN LINCOLN ROBINSON, to be Asa Gray Professor of Systematic Botany. December 11, 1899.
 GEORGE HOWARD PARKER, to be Assistant Professor of Zoölogy, for five years from September 1, 1899. December 11, 1899.
 OAKES AMES, to be Assistant Director of the Botanic Garden, for five years from January 1, 1900. December 11, 1899.
 EDWARD SKINNER KING, to be Assistant in the Observatory, from September 1, 1899. December 11, 1899.
 JAMES ATKINS NOYES, to be a member of the University Council. December 26, 1899.
 ABBOTT LAWRENCE LOWELL, to be Professor of the Science of Government, from September 1, 1900. February 12, 1900.
 WALTER SAFFORD BURKE, to be Inspector of Grounds and Buildings, from March 1, 1900. February 12, 1900.
 WALTER RAYMOND SPALDING, to be Instructor in Music, from September 1, 1900. March 12, 1900.
 WILLIAM ERNEST CASTLE, to be Instructor in Zoölogy, from September 1, 1900. March 26, 1900.
 JOHN HAYS GARDINER, to be Assistant Professor of English, for five years from September 1, 1900. April 9, 1900.
 GEORGE PIERCE BAKER, to be Assistant Professor of English, for five years from September 1, 1900. May 14, 1900.

- WALLACE CLEMENT SABINE, to be Assistant Professor of Physics, for five years from September 1, 1900. May 14, 1900.
- ROBERT DECOURCY WARD, to be Assistant Professor of Climatology, for five years from September 1, 1900. May 14, 1900.
- JEREMIAH DENIS MATTHIAS FORD, to be Instructor in French, from September 1, 1900. May 14, 1900.
- HENRY LLOYD SMITH, to be Professor of Mining and Metallurgy. May 28, 1900.
- FRANKLIN DEXTER, to be Associate Professor of Anatomy. May 28, 1900.
- FRANCIS HENRY DAVENPORT, to be Assistant Professor of Gynaecology, for five years from September 1, 1900. May 28, 1900.
- FRANZ PFAFF, to be Assistant Professor of Pharmacology and Therapeutics, for five years from September 1, 1900. May 28, 1900.
- LIONEL SIMEON MARKS, to be Assistant Professor of Mechanical Engineering, for five years from September 1, 1900. May 28, 1900.
- THOMAS NIXON CARVER, to be Assistant Professor of Political Economy, for five years from September 1, 1900. May 28, 1900.
- CHARLES LEONARD BOUTON, to be Instructor in Mathematics, from September 1, 1900. May 28, 1900.
- WILLIAM GUILD HOWARD, to be Instructor in German, from September 1, 1900. May 28, 1900.
- ELISHA WILSON MORSE, to be Instructor in Natural History, from September 1, 1900. May 28, 1900.
- THOMAS AUGUSTUS JAGGAR, to be Instructor in Geology, from September 1, 1900. July 7, 1900.
- MARSHALL HENRY BAILEY, to be Medical Visitor, from September 1, 1900. July 7, 1900.
- WILLIAM HENRY POTTER, to be Assistant Professor of Operative Dentistry, for five years from September 1, 1900. September 25, 1900.
- WILLIAM PARKER COOKE, to be Assistant Professor of Mechanical Dentistry, for five years from September 1, 1900. September 25, 1900.
- RICHARD COBB, to be Instructor in English. September 25, 1900.
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| CHARLES ELIOT NORTON. | } To be members of the Council of the Library for three years from January 1, 1900. September 25, 1900. |
| CRAWFORD HOWELL TOY. | |
| WILLIAM MORRIS DAVIS. | |
| FRANK WILLIAM TAUSSIG. | |
| MORRIS HICKY MORGAN. | |
| GEORGE LYMAN KITTREDGE. | |

[FOR ONE YEAR OR LESS.]

For 1899-1900.

- ROY CAMPBELL SMITH, to be Lecturer on Military and Naval Science. October 2, 1899.
- DENHAM WALDO ROSS, to be Lecturer on the Theory of Design, for the first half of 1899-1900. October 2, 1899.
- CYRUS GUERNSEY PRINGLE, to be Botanical Collector, for the calendar year 1899. October 2, 1899.
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| DONALD FRANK CAMPBELL. Mathematics. | } To be Instructors. | |
| FRANCIS DOHS. Gymnastics. | | |
| GUIDO CARL LEO RIEMER. German. | | |
| | | October 2, 1899. |

MERRITT LYNDON FERNALD, to be Assistant in the Gray Herbarium. October 2, 1899.

JONAS VILES, to be Proctor. October 2, 1899.

DANIEL FRANCIS CALHANE. Chemistry.

CHARLES CLARK WILLOUGHBY. American Archaeology and Ethnology.

OLIVER MITCHELL WENTWORTH SPRAGUE. Political Economy.

ABRAM PIATT ANDREW, Jr. Political Economy.

To be Austin Teaching Fellows.
October 16, 1899.

EUGENE ABRAHAM DARLING. Hygiene.

ALBERT SAUVEUR. Metallurgy.

EDWARD HENRY WARREN. Political Economy.

MYRON LUCIUS ASHLEY. Philosophy.

LYNN STALEY BEALS. Chemistry.

LEWIS CLINTON CARSON. Philosophy.

RAY PRITCHARD ELLS. Chemistry.

LAWRENCE JOSEPH HENDERSON. Chemistry.

PAUL ELMER MORE. Sanskrit Department.

JAMES AMBROSE MOYER. Mechanical Drawing.

EDWIN LEE NORTON. Philosophy.

HENRY MILNOR RIDEOUT. English.

WILLIAM BRIGGS SAVERY. Philosophy.

ARTHUR BLISS SEYMOUR. Cryptogamic Herbarium.

MICHAEL XAVIER SULLIVAN. Chemistry.

JOHN BUTLER SWANN. English.

WALTER GUSTAVUS WAITT. Chemistry.

CHARLES HENRY WHITE. Metallurgy and Assaying.

ROBERT MEARNES YERKES. Psychological Laboratory.

ALBERT JAMES SHELDON, to be Instructor in Meat Inspection and Assistant Surgeon at the Veterinary Hospital. October 16, 1899.

ELMER WARREN BABSON, to be Demonstrator of Comparative Anatomy. October 16, 1899.

ALBERT JAMES SHELDON, to be Lecturer on the Diseases of the Dog. October 16, 1899.

WALLACE BRETT DONHAM.

MERRITT LYNDON FERNALD.

To be Proctors. October 16, 1899.

MACY MILLMORE SKINNER. German.

ELLIOT HERSEY GOODWIN. Government.

PHILIP JACOB GENTNER. English.

HENRY TURNER BURR. Geology.

To be Austin Teaching Fellows.
October 30, 1899.

JEREMIAH WHIPPLE JENKS, to be Lecturer on Trusts or Industrial Combinations. October 30, 1899.

SAMUEL SILAS CURRY, to be Instructor in Elocution. October 30, 1899.

JAMES AUGUSTUS GEORGE. Government.

ROBERT LOUIS HOGUET. History.

ROGER BIGELOW MERRIMAN. History.

RAYMOND TASKER PARKE. History.

JOHN CHRISTIAN RANSMEIER. German.

To be Assistants.
October 30, 1899.

FREDERICK BRADLEY, to be Lecturer in Operative Dentistry. October 30, 1899.

S HERBERT HARDING, to be Instructor in Operative Dentistry. October 30, 1899.

CHARLES STATES ANDREW.

MASON BOUTWELL.

R CHARLES LEWIS BROWN.

ON HITCHCOCK BROWN.

. FRANCIS CALHANE.

R BRADFORD CANNON.

E HENRY CHASE.

CE PATTEN COHOE.

CE BRETT DONHAM.

M EDWIN DORMAN.

RUSSELL FISH.

.D DWIGHT FULLERTON.

ER NOYES GREENOUGH.

S HARVEY HAINES.

E WILLIAM HEIMROD.

AMBROSE KING.

MAR KOCH.

IT NEWTON LEWIN.

E RICHARD LYMAN.

.M EDWARD MCKELFRESH.

S CALVIN MCKAY.

FREDERICK NEAL.

T HITCHINGS NEWHALL.

R ORLO NORTON.

HORACE PATTEN.

E WASHINGTON PIERCE.

ES WILLIAM PRENTISS.

.M MAXWELL REED.

EVERETT SAFFORD.

. MITCHELL WENTWORTH SPRAGUE.

R RUSSELL STOBBS.

ILLE TERRELL.

. SAMUEL TONKS.

VILES.

T PARKER WARREN.

SAWYER WHEELER.

.M ALBERT WILLARD.

EN RIGGS WILLIAMS.

.D WILLIAM GUNNING WILSON.

T RUSSELL WRIGHTINGTON.

MASON BOUTWELL.

.M MAXWELL REED. } To be Proctors. November 13, 1899.

R RUSSELL STOBBS. }

ES MONTRAVILLE GREEN, to be Secretary of the Faculty of Medicine. November 27, 1899.

R BRADFORD CANNON, to be Instructor in Zoölogy. November 27, 1899.

IEISS. German.

.M HOWELL REED. German.

. MOREY STURTEVANT. German.

} To be Assistants.

November 27, 1899.

CARL RUSSELL FISH, to be Austin Teaching Fellow in History and Government.
December 11, 1899.

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|--|---|---|
| WILLIAM LAMBERT RICHARDSON. | } | To be Members of the Administrative Board
of the Medical School. December 11,
1899. |
| JOHN COLLINS WARREN. | | |
| EDWARD STICKNEY WOOD. | | |
| FREDERICK CHEEVER SHATTUCK. | | |
| WILLIAM FISKE WHITNEY. | | |
| CHARLES MONTRAVILLE GREEN. | } | To be Members of the Administrative Board
of the Dental School. December 11,
1899. |
| CHARLES HARRINGTON. | | |
| FRANKLIN DEXTER. | | |
| FRANK BURR MALLORY. | | |
| EUGENE HANES SMITH. | | |
| THOMAS FILLERBROWN. | } | To be Members of the Administrative Board
of the Dental School. December 11,
1899. |
| CHARLES ALBERT BRACKETT. | | |
| WILLIAM BARKER HILLS. | | |
| EDWARD CORNELIUS BRIGGS. | | |
| JERE EDMUND STANTON. | | |
| WILLIAM PARKER COOKE. | } | To be Members of the Administrative Board of the School of
Veterinary Medicine. December 11, 1899. |
| DWIGHT MOSES CLAPP. | | |
| WALDO ELIAS BOARDMAN. | | |
| CHARLES PARKER LYMAN. | | |
| WILLIAM FISKE WHITNEY. | | |
| FREDERICK HUNTINGTON OSGOOD. | } | To be Members of the Administrative Board of the School of
Veterinary Medicine. December 11, 1899. |
| LANGDON FROTHINGHAM. | | |
| ALLEN CLEGHORN. | | |
| ALBERT JAMES SHELDON. | | |
| ELMER WARREN BABSON. | | |
| EDWARD DWIGHT FULLERTON, to be Assistant in Government. December 11, 1899. | | |
| JOHN WASHBURN BARTOL. Clinical Medicine. | } | To be Assistants.
December 11, 1899. |
| JAMES MARSH JACKSON. Clinical Medicine. | | |
| WILLIAM HERBERT PRESCOTT. Clinical Medicine. | | |
| MICHAEL HEALY RYAN, to be Assistant in Surveying and Hydraulics. January 29, 1900. | | |
| GEORGE SHERMAN CLARKE BADGER. Chemistry. | } | To be Assistants.
January 29, 1900. |
| JOHN MATTHEW CONNOLLY. Chemistry. | | |
| ROBERT LEONARD EMERSON. Chemistry. | | |
| PERCY MUSGRAVE. Chemistry. | | |
| LEROY ALLSTON AMES, to be Assistant in English. | } | To be Assistants.
February 12, 1900. |
| RICHARD HUSON HART. English. | | |
| SYDNEY RUSSELL WRIGHTINGTON. English. | | |
| ERNEST JEWELL HART. Extracting and Anaesthesia. | | |
| WILLIAM DANIEL SQUARKERBORN. Extracting and Anaesthesia. | } | To be Assistants.
February 26, 1900. |
| CHARLES THOMSON HASKELL, to be Proctor. March 12, 1900. | | |
| LAWRENCE WILLS BAKER, to be Assistant in Orthodontia. April 9, 1900. | | |
| WILLIAM STURGIS BIGELOW, ARTHUR ASTOR CAREY, ARTHUR TRACY CABOT, to be Trustees of the Museum of Fine Arts, from January 1, 1900, to January 1, 1901. November 27, 1899. | | |

For 1900-01.

UCE WYMAN, to be Lecturer on Administrative Law.	April 30, 1900.	
BERT GRAY DODGE. Contracts.		} To be Instructors. May 14, 1900.
LLIAM RODMAN PEABODY. Criminal Law.		
THUR CHARLES ROUNDS. Civil Procedure under the New York Code.		
EDERICK LAW OLNSTED, to be Instructor in Landscape Architecture.	January 29, 1900.	
THUR ASAHEL SHURTLEFF, to be Assistant in Landscape Architecture.	January 29, 1900.	
LLIAM FENWICK HARRIS. Greek.		} To be Instructors. March 26, 1900.
ALTON BROOKS McDANIEL. Greek and Latin.		
NEY WASHINGTON PRESCOTT. Greek and Latin.		
EBERT WILBUR RAND. Zoölogy.		
ES HAUGHTON WOODS. Anthropology.		
LAND BURREAGE DIXON, to be Assistant in Anthropology.	March 26, 1900.	
LPH BARTON PERRY, to be Austin Teaching Fellow in Philosophy.	April 9, 1900.	
LLIAM ALLAN NEILSON, to be Instructor in English.	April 9, 1900.	
EDERICK ROBERTSON GRIFFIN, to be Proctor.	April 30, 1900.	
NEY HOWARD TRUE, to be Lecturer on Botany.	May 14, 1900.	
GAR WILLIAM OLIVE, to be Instructor in Botany.	May 14, 1900.	
ARLES CLARK WILLOUGHBY, to be Austin Teaching Fellow in American Archaeology and Ethnology.	May 28, 1900.	
NEY BRADSHAW FAY, to be Austin Teaching Fellow in History and Government.	May 28, 1900.	
EBOLL DAVIDSON WRIGHT, to be Lecturer on Methods and Results of collecting Wage Statistics.	May 28, 1900.	
WARD ROBINSON, to be Lecturer on Classical Archaeology.	May 28, 1900.	
KES AMES. Botany.		} To be Instructors. May 28, 1900.
RAM PIATT ANDREW. Political Economy.		
ARLES HAMILTON ASHTON. Mathematics.		
ORGE WILLIS BOTSFORD. History of Greece and Rome.		
WALD FRANK CAMPBELL. Mathematics.		
IN FIRMAN COAR. German.		
LLIAM MORSE COLE. Principles of Accounting.		
IAN LOWELL COOLIDGE. Mathematics.		
THUR BOWES FRIZELL. Mathematics.		
ESTER NOYES GREENOUGH. English.		
OMAS HALL. English.		
IN GODDARD HART. English.		
ANK LOWELL KENNEDY. Mechanical Drawing.		
NER HUNTINGTON KIDDER. English.		
LLIAM LYON MACKENZIE KING. Polical Economy.		
LLIAM WITHERLE LAWRENCE. German.		
LLIAM EDWARD MCCLINTOCK. Highway Surveying.		
STAVUS HOWARD MAYNADIER. English.		
GO RICHARD MEYER. Political Economy.		
ILIP LEE MILLER. English.		

WILLIAM VAUGHAN MOSES. Drawing and Machine Design.

MARTIN MOWER. Fine Arts.

CARLETON ELDREDGE NOYES. English

HENRY LEE PRESCOTT. English.

HENRY MILNOR RIDEOUT. English.

PIERRE LA ROSE. English.

MACY MILLMORE SKINNER. German.

OLIVER MITCHELL WENTWORTH SPRAGUE. Political Economy.

JOHN BUTLER SWANN. English.

STEPHEN EDOAR WHITING. Electrical Engineering.

JAMES KELSEY WHITTEMORE. Mathematics.

CHARLES HAMILTON AYRES. Physics.

OTIS FISHER BLACK. Chemistry.

FREDERIC BONNET. Chemistry.

ROBERT STANLEY BREED. Zoölogy.

DANIEL FRANCIS CALHANE. Chemistry.

FRANK LOWEY CLARK. Classics.

WALLACE PATTEN COHOE. Chemistry.

HOWARD CRAWLEY. Zoölogy.

JAMES BROWN DANDENO. Botanical Museum.

WALLACE BRETT DONHAM. Government.

WILLIAM EDWIN DORMAN. History.

EDWARD DWIGHT FULLERTON. Government.

WILLIAM JAY HALE. Chemistry.

ROBERT LOUIS HOGUET. History.

HAROLD LINCOLN HUGHES. Mechanics.

THEODORE LYMAN. Physics.

WILLIAM EDWARD McELFRESH. Physics.

KENNETH LAMARTINE MARK. Chemistry.

THOMAS ORDWAY. Zoölogy.

JAMES BIRCH RORER. Botany.

GEORGE RUSSELL STOBBS. History.

MICHAEL XAVIER SULLIVAN. Chemistry.

WALTER GUSTAVUS WAITT. Chemistry.

HENRY AARON YEOMANS. History.

EDWIN PLIMPTON ADAMS.

LEROY ALLSTON AMES.

ABRAM PIATT ANDREW.

CHARLES HAMILTON AYRES.

CHARLES FRANCIS DORR BELDEN.

JOHN MASON BOUTWELL.

HARRY KELLY BRENT.

WALTER BRADFORD CANNON.

MALCOLM DONALD.

WALLACE BRETT DONHAM.

GOLDTHWAITE MAYNARD HIGGINSON DORR.

MERRITT LYNDON FERNALD.

PHILIP JACOB GENTNER.

CHESTER NOYES GREENOUGH.

To be Instructors.
May 28, 1900.

To be Assistants.

May 28, 1900.

To be Proctors.

May 28, 1900.

GRILE.		
HARVEY HAINES.		
JAY HALE.		
THOMSON HASKELL.		
ERASTUS HOLIDAY.		
RICHARD LYMAN.		
EDWARD MCELFRESH.		
LEE MILLER.	}	To be Proctors. May 28, 1900.
LORACE PATTEN.		
MILNOR RIDEOUT.		
MITCHELL WENTWORTH SPRAGUE.		
RUSSELL STORRS.		
UTLER SWANN.		
ILES.		
LARON YEOMANS.		
MEARNS YERKES.		
DEUTSCH WEIS, to be Austin Teaching Fellow in Surgical Pathology. June 11, 1900.		
E BRUN. French.	}	To be Instructors. June 11, 1900.
VALÉRIEN CUSACHS. Spanish.		
D ALDWORTH DALY. Geology.		
NEELY HENNING. French.		
E MARIN LAMESLÉE. French.		
MACDOUGALL. Philosophy.		
ROBERT OTTO VON MACH. The History Greek Art.		
IN SERGEANT MILLER. Philosophy		
ORLO NORTON. The History and Art of aching.		
N RAND. Philosophy.		
S ADOLPHUS ANDEREGG. Physics.	}	To be Assistants. June 11, 1900.
LINTON CARSON. Philosophy.		
LEE NORTON. Philosophy.		
EDMUND WOODMAN. Geology.		
SCHMIDT, to be Assistant in the University Library.		
FOOT MOORE.	}	To be Preachers to the University. June 26, 1900.
F PEABODY.		
VERE FROTHINGHAM.		
MACDONALD.		
WALDO ROSS, to be Lecturer on the Theory of Design.		June 26, 1900.
ABRAHAM DARLING. Hygiene.	}	To be Instructors. June 26, 1900.
GARBUTT. Modelling.		
D THOMAS LAPSLEY. History.		
SHARP RAYMER. Mining.		
SAUVEUR. Metallurgy.		
HENRY WHITE. Mining and Metallurgy.		
BISBEE. Chemistry.	}	To be Assistants. June 26, 1900.
LT COLE. Astronomy.		
CTOR PROVANDIE. Hygiene.		
DANA SWAN. Architecture.		

ROLAND WILLIAM BOYDEN.	}	To be a Committee on the Regulation of Athletic Sports. July 7, 1900.
ARCHIBALD CARY COOLIDGE.		
EDWIN HERBERT HALL.		
IRA NELSON HOLLIS.		
JAMES JACKSON STORROW.		
BERTRAM GORDON WATERS.	}	To be Members of the Administrative Board of Harvard College. Sep- tember 25, 1900.
LYMAN ABBOTT, to be a Preacher to the University. September 25, 1900.		
LE BARON RUSSELL BRIGGS.		
FRÉDÉRIC CÉSAR DE SUMICHRAST.		
ROBERT WHEELER WILLSON.		
CHARLES POMEROY PARKER.		
CHARLES GROSS.		
ALFRED BULL NICHOLS.		
CHARLES HALL GRANDGENT.		
JOHN HAYS GARDINER.		
ARCHIBALD CARY COOLIDGE.		
LEWIS JEROME JOHNSON.		
GEORGE WASHINGTON CRAM.		
ROBERT DECOURCY WARD.		
CHARLES BURTON GULICK.		
FRED NORRIS ROBINSON.		
CHARLES HENRY CONRAD WRIGHT.		
RICHARD COBB.	}	To be Members of the Administrative Board of the Lawrence Scientific School. September 25, 1900.
CHARLES PALACHE.		
FRANK RUSSELL.		
NATHANIEL SOUTHGATE SHALER.		
IRA NELSON HOLLIS.		
HERBERT LANGFORD WARREN.		
CHARLES ROBERT SANGER.		
HENRY LLOYD SMYTH.		
HEINRICH CONRAD BIERWIRTH.		
ROBERT TRACY JACKSON.		
JAMES LEE LOVE.	}	To be Members of the Administrative Board of the Graduate School. September 25, 1900.
GEORGE HOWARD PARKER.		
COMFORT AVERY ADAMS.		
JOHN HENRY WRIGHT.		
CRAWFORD HOWELL TOY.		
CHARLES LORING JACKSON.		
WILLIAM MORRIS DAVIS.		
MINTON WARREN.		
WILLIAM ELWOOD BYERLY.		
HANS CARL GÜNTHER VON JAGEMANN.		
EDWARD HENRY STROBEL.	}	To be Instructors. September 25, 1900.
ALBERT BUSHNELL HART.		
GEORGE LYMAN KITTREDGE.		
HUGO MÜNSTERBERG.		
FRANCIS DOHS. Gymnastics.		
ALFRED DOUGLAS FLINN. Sanitary Engineering.	}	
LEO WIENER. Slavic Languages.		
WILLIAM FRANKLIN WILLOUGHBY. Economics.		
JEVAH LESTER WINTER. Elocution.		

PRIMER JONES, to be Assistant in Mechanical Drawing. September 1900.

MONTRAVILLE GREEN, to be Secretary of the Faculty of Medicine. June 11, 1900.

LALL NICHOLS, to be Demonstrator of Surgical Pathology. June 11, 1900.

MERRIS AUBREY BEACH. Surgery.

HOLMES DURGIN. Hygiene.

RELOCK ELLIOT. Surgery.

WASHINGTON GAY. Surgery.

WILSON. Surgery.

WHEATON BOWEN. Dermatology.

BRADFORD CANNON. Physiology.

GERRY CUTLER. Theory and Practice of Physic.

WELLES DWIGHT. Legal Medicine.

WILSON. Gynaecology.

WILKINSON HEWES. Clinical Chemistry.

WILSON. Clinical Medicine.

WRETH McCOLLOM. Contagious Diseases.

WRESCOTT MATHEWS. Physiology.

HOWARD MONKS. Clinical Surgery.

WETMORE. Diseases of Children.

WIMINGS MUNRO. Surgery.

WILSON OGDEN. Clinical Chemistry.

ALLEN PORTER. Surgery.

WILSON. Syphilis.

WILSON PRATT. Pathology.

WILSON REYNOLDS. Obstetrics.

WILSON SEARS. Clinical Medicine.

WILSON TAYLOR. Neuropathology.

WILSON TENNEY. Anatomy.

FRANK VICKERY. Clinical Medicine.

WILSON SEDGWICK WATSON. Genito-Urinary Surgery.

FRANCIS WITHINGTON. Clinical Medicine.

WILSON WRIGHT. Pathology.

MARSHALL BUCKINGHAM. Diseases of Children.

WILSON COOLIDGE. Laryngology.

WILSON DOWLES. Mental Diseases.

WILSON EMORY DEBLOIS. Laryngology.

WILSON GODFORD FARLOW. Laryngology.

WILSON COMBS KNAPP. Diseases of the Nervous System.

WILSON BINNEY LANE. Mental Diseases.

WILSON LINCOLN WALTON. Diseases of the Nervous System.

WILSON WELLS ALLEN. Anatomy.

WILSON COLN AMES. Clinical Medicine.

HERMAN CLARKE BADGER. Physiological Chemistry and the Theory and Practice of Physic.

WILSON WILLIAM BALCH. Pharmacology.

To be Lecturers.

June 11, 1900.

To be Instructors.

June 11, 1900.

To be Clinical Instructors.

June 11, 1900.

To be Assistants.

June 11, 1900.

FRANKLIN GREENE BALCH. Clinical and Operative Surgery.

JOHN WASHBURN BARTOL. Clinical Medicine.

JOHN BAPTIST BLAKE. Clinical and Operative Surgery.

GEORGE WASHINGTON WALES BREWSTER. Clinical and Operative Surgery.

CHARLES SHOREY BUTLER. Anatomy.

HUGH CABOT. Operative Surgery.

RICHARD CLARKE CABOT. Clinical Medicine.

JOSEPH THOMAS CALLAHAN. Histology.

FREDERICK EDWARD CHENEY. Ophthalmology.

ALLEN CLEGHORN. Physiology.

FARRAR COBB. Clinical and Operative Surgery.

ERNEST AMORY CODMAN. Anatomy.

JOHN MATTHEW CONNOLLY. Chemistry.

JOHN NELSON COOLIDGE. Bacteriology.

GEORGE ARTHUR CRAIGIN. Diseases of Children.

EUGENE ANTHONY CROCKETT. Otology.

LINCOLN DAVIS. Anatomy.

FRANCIS PARKMAN DENNY. Bacteriology.

JAMES CROWLEY DONOGHUE. Histology.

EDWIN WELLES DWIGHT. Clinical and Operative Surgery.

SHEPHERD IVORY FRANZ. Physiology.

PHILIP HAMMOND. Otology.

FRANK ALBERT HIGGINS. Obstetrics.

EDWIN EVERETT JACK. Ophthalmology.

JAMES MARSH JACKSON. Clinical Medicine.

JAMES OSCAR JORDAN. Materia Medica.

ELLIOTT PROCTOR JOSLIN. Theory and Practice of Physic.

WALDEMAR KOCH. Physiology.

MAYNARD LADD. Physiological Chemistry, and Diseases of Children.

RALPH CLINTON LARRABEE. Histology.

HOWARD AUGUSTUS LOTHROP. Anatomy.

FRED BATES LUND. Clinical and Operative Surgery.

SAMUEL JASON MIXTER. Operative Surgery.

GEORGE HOWARD MONKS. Operative Surgery.

HARRIS PEYTON MOSHER. Anatomy.

JAMES GREGORY MUMFORD. Clinical and Operative Surgery.

PERCY MUSGRAVE. Chemistry.

FRANKLIN SPILMAN NEWELL. Obstetrics.

CALVIN GATES PAGE. Bacteriology.

HENRY JOSEPH PERRY. Bacteriology.

GEORGE BURGESS PIERCE. Anatomy.

WILLIAM HERBERT PRESCOTT. Clinical Medicine.

EDWARD REYNOLDS. Gynaecology.

MARK WYMAN RICHARDSON. Theory and Practice of Physic.

To be Assistants.

June 11, 1900.

AM HENRY ROBey. Bacteriology.	}	To be Assistants. June 11, 1900.
ES LOCKE SCUDDER. Clinical and Operative Surgery.		
AM HENRY SMITH. Clinical Medicine.		
STANDISH. Ophthalmology.		
ERICK WINSLOW STETSON. Anatomy.		
ELM STORER. Gynaecology.		
RAYMOND STUBBS. Histology.		
THORNDIKE. Genito-Urinary Surgery.		
WARREN. Anatomy.		
ES JAMES WHITE. Dermatology.		
ELIN WARREN WHITE. Theory and Practice of Physic.		
DE SHATTUCK WHITESIDE. Anatomy.		
ERICK ADAMS WOODS. Embryology.		
T BOYEN YOUNG. Anatomy.		
AM LAMBERT RICHARDSON.	}	To be Members of the Administrative Board of the Medical School. September 25, 1900.
COLLINS WARREN.		
ED STICKNEY WOOD.		
ERICK CHEEVER SHATTUCK.		
AM FISKE WHITNEY.		
ES MONTRAVILLE GREEN.	}	To be Instructors. May 14, 1900.
ES HARRINGTON.		
ELIN DEXTER.		
BURR MALLORY.		
T JEWETT HART. Extracting and Anaesthesia.		
DE HOWARD MONKS. Surgical Pathology.	}	To be Instructors in Mechanical Dentistry. May 14, 1900.
CK WILLIAM MORIARTY. The Mechanical Treatment of Fractured Jaws and Cleft Palates.		
AM DANIEL SQUAREBRIGGS. Extracting and Anaesthesia.		
RD WYLLYS TAYLOR. Neurology.		
OLIVER BIXBY.		
ER STANLEY BURNHAM.	}	To be Instructors in Operative Dentistry. May 14, 1900.
ER WARREN ELDRED.		
DE LINCOLN FORREST.		
WEST HALEY.		
ERICK EVERETT MEADER.		
CARTER BLAISDELL.	}	To be Instructors in Operative Dentistry. May 14, 1900.
ERICK BRADLEY.		
IT WARD DICKINSON.		
ST GREENWOOD EDDY.		
DE RUFUS GRAY.		
PROCTOR HOLMES.	}	To be Instructors in Operative Dentistry. May 14, 1900.
IS HERBERT HARDING.		
II TOTTEN PAUL.		
ES ERNEST PERKINS.		
ED HARLOW STARRATT.		
FLETCHER TAFT.	}	To be Instructors in Operative Dentistry. May 14, 1900.
TURNER TAYLOR.		
LAURISTON UPHAM.		
ER HARRIS WHITE.		

HAROLD DEWITT CROSS, to be Demonstrator of Mechanical Dentistry. May 14, 1900.

ROBERT JOHN McMEEKIN, to be Demonstrator of Operative Dentistry. May 14, 1900.

ASHER HARRIMAN ST. CLAIRE CHASE, to be Assistant Demonstrator of Mechanical Dentistry. May 14, 1900.

EDWIN LINWOOD FARRINGTON, to be Assistant Demonstrator of Operative Dentistry. May 14, 1900.

JOHN DANA DICKINSON, to be Clinical Instructor in Mechanical Dentistry. May 14, 1900.

JULIUS GEORGE WILLIAM WERNER, to be Clinical Instructor in Operative Dentistry. May 14, 1900.

DWIGHT MOSES CLAPP, to be Clinical Lecturer in Operative Dentistry. May 14, 1900.

ARTHUR HENRY STODDARD, to be Clinical Lecturer in Mechanical Dentistry. May 14, 1900.

LAWRENCE WILLS BAKER. Orthodontia. } To be Assistants. May 14, 1900.
HENRY CARLTON SMITH. Chemistry. }

ERNEST HOWARD CHUTE. } To be Instructors in Mechanical Dentistry.
HARRY LINWOOD GRANT. } June 11, 1900.
THOMAS BERNARD HAYDEN. }

EUGENE HANES SMITH.

THOMAS FILLEBROWN.

CHARLES ALBERT BRACKETT.

WILLIAM BARKER HILLS.

EDWARD CORNELIUS BRIGGS.

WILLIAM PARKER COOKE.

WILLIAM HENRY POTTER.

DWIGHT MOSES CLAPP.

WALDO ELIAS BOARDMAN.

To be Members of the Administrative Board of the Dental School. September 25, 1900.

CHARLES WILLIAM PRENTISS, to be Instructor in Anatomy. April 9, 1900.

WILLIAM ORISON UNDERWOOD, to be Lecturer on Warranty and Evidence. May 14, 1900.

ALLEN CLEGHORN. Physiology.

LESTER HEARD HOWARD. Clinical Medicine.

FRANK INGERSOLL PROCTOR. Ophthalmology.

ALBERT GOLDWIN GEORGE RICHARDSON. Meat Inspection.

To be Instructors.

ALBERT JAMES SHELDON. Diseases of the Dog and other Small Animals.

May 14, 1900.

HENRY CARLTON SMITH. Materia Medica.

FREDERICK ADAMS WOODS. Histology.

CHARLES WESLEY DELANO. Clinical Medicine.

To be Assistants.

JAY BERGEN OGDEN. Clinical Chemistry.

May 14, 1900

CHARLES PARKER LYMAN.

WILLIAM FISKE WHITNEY.

FREDERICK HUNTINGTON OSGOOD.

LANGDON FROTHINGHAM.

ALLEN CLEGHORN.

HENRY CARLTON SMITH.

ALBERT JAMES SHELDON.

CHARLES WILLIAM PRENTISS.

To be Members of the Administrative Board of the School of Veterinary Medicine. September 25, 1900.

HERMAN WALLACE HAYNES, to be Assistant in Chemistry. May 28, 1900.

NUMBER OF ORDINARY DEGREES IN 1900.

Bachelors of Arts of the Class of 1900	404
Bachelors of Arts out of course	15
Bachelors of Science	59
Bachelors of Science out of course	6
Bachelors of Divinity	5
Bachelors of Laws	126
Bachelors of Laws out of course	8
Doctors of Medicine	130
Doctors of Dental Medicine	33
Doctors of Veterinary Medicine	7
Masters of Arts	125
Masters of Arts out of course	9
Masters of Science	1
Doctors of Philosophy	35
Doctors of Science	1
Total	964

Table of Schools and Colleges from which young men actually entered Harvard College from 1891 to 1900 inclusive, with the number that entered from each institution in each year. Special students are not included. An asterisk (*) indicates a public school, a dagger (†) a school known to be endowed.

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Academy of Northwestern Univ., Evanston, Ill.	.	.	.	.	.	.	.	.	1	.
Acadia College, Wolfville, N. S.	.	1	.	1	1	1	2	3	1	1
†Adams Academy, Quincy	7	7	3	4	6	6	3	4	.	1
Adelbert College, Cleveland, O.	1	1	.	.	.	.	.	.	.	.
†Adelphi Academy, Brooklyn, N. Y.	.	.	.	.	.	.	.	.	.	1
Alabama Polytechnic Institute, Auburn, Ala.	.	.	.	1	.	.	.	.	.	.
†Albany Academy, Albany, N. Y.	2	1	2	2	1	1	2	1	4	.
*Albany, N. Y., High School	.	.	.	.	1	.	.	.	1	1
*Albany, N. Y., State Normal School	1	.	.	.	.	.	.	.	.	2
Alleghany College, Meadville, Pa.	.	.	.	2	.	1	.	.	.	.
Allen School, Newton	.	1	.	.	.	.	.	.	.	.
Allen School, New York, N. Y.	.	.	.	.	1	1	.	.	.	.
*Amesbury High School	.	.	.	.	.	.	.	.	1	.
Amherst College	.	1	1	4	2	2	3	2	3	.
Anglo-American College, Paris, France	.	.	.	.	.	.	.	.	.	1
Antioch College, Yellow Springs, O.	.	.	1	.	.	.	.	.	.	.
Appleton Academy, New Ipswich, N. H.	1	1	.	.	.	1	.	.	.	1
*Arlington, Cotting High School	1	1	3	.	.	1	1	3	1	1
Arlington Heights Summer School	.	1	.	.	.	1	.	.	.	.
†Arms Academy, Shelburne Falls	1	.	.	.	.	.	.	1	.	.
*Auburn, Me., Edward Little High School	1	.	.	.	.	.	.	.	.	.
*Auburn, N. Y., High School	.	.	.	.	.	1	1	1	.	2
*Augusta, Me., Coney High School	.	1	1	1	.	1	1	.	.	1
Augustana College, Rock Island, Ill.	.	1	.	.	.	.	.	.	1	.
Baldwin University, Berea, O.	.	2	.	.	.	.	.	.	.	.
Baltimore, Md., Boy's Latin	.	.	.	.	.	.	.	.	.	1
*Bangor, Me., High School	.	.	.	.	1	.	.	.	.	.
Barnard School, St. Paul, Minn.	.	.	.	.	.	.	.	.	.	1
*Barnstable High School	.	.	.	1	.	.	.	1	.	.
*Barre High School	.	.	.	.	.	.	.	.	.	1
Bates College, Lewiston, Me.	.	1	.	.	.	.	.	.	1	1
*Beaver, Pa., High School	.	.	.	.	.	.	.	.	1	.
Belmont, N. Y., Academy	.	1	.	.	.	1	.	.	.	.
Belmont School, Belmont, Cal.	2	2	2	1	.	2	2	1	.	1
Belmont School, Belmont	1	4	4	1	1	4	4	1	1	.
Beloit, Wis., College Academy	.	1	.	.	.	1	.	.	.	.
Berkeley School, Boston	1	2	1	3	1	3	1	3	.	.
Berkeley School, New York, N. Y.	1	5	4	5	2	5	3	5	.	1
Bethany College, Lindsborg, Kan.	.	1	.	.	.	1	.	.	.	.
Betts Academy, Stamford, Conn.	.	.	.	.	.	.	.	.	.	1
*Beverly High School	.	1	.	.	.	1	.	.	.	1
Beverly School, Beverly	.	1	.	.	.	.	.	.	.	.
Blackburn University, Carlinville, Ill.	1	.	.	.	.	.	.	.	.	.
Boston College	.	.	.	.	.	.	.	1	1	2
*Boston English High School	4	3	6	3	.	2	7	4	2	4
*Boston Latin School	25	26	34	24	23	28	34	24	32	38
Boston University	1	3	1	.	.	2	.	.	1	3

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Bowdoin College, Brunswick, Me. . . . .	.	.	2	.	2	3	.	.	2	1
*Bradford High School . . . . .	.	1	.	.	.	1	.	.	.	.
Bradstreet School, Rochester, N. Y. . . . .	.	.	.	.	.	.	.	.	1	.
†Brewster Free Academy, Wolfboro, N. H.	2	.	1	.	.	.	1	.	.	.
*Bridgeport, Conn., High School . . . . .	.	1	.	1	.	1	.	1	.	.
*Bridgewater High School . . . . .	.	.	.	.	.	.	.	.	.	6
*Bridgewater State Normal School	1	.	.	.	.	.	.	.	1	.
†Bridgton Academy, Bridgton, Me. . . . .	.	.	.	.	.	.	.	.	1	.
†Bristol Academy, Taunton . . . . .	.	.	.	.	.	.	1	.	.	.
*Brockton High School . . . . .	.	.	.	3	1	.	.	3	1	1
†Bromfield School, Harvard . . . . .	.	.	.	1	.	.	.	.	.	.
*Brookline High School . . . . .	.	1	5	3	6	1	5	3	3	3
*Brooklyn, N. Y., High School . . . . .	.	.	.	2	1	.	.	1	3	3
†Brooklyn, N. Y., Pratt Institute High School . . . . .	.	.	.	.	.	.	.	.	.	1
†Brooklyn Polytechnic Institute, Brooklyn, N. Y.	1	2	2	1	3	2	2	.	4	1
*Brooks Academy, Cleveland, O.	1	.	.	.	.	.	.	.	.	.
Brown University, Providence, R. I. . . . .	.	1	.	2	.	2	1	2	.	2
Browne & Nichols, Private School, Cambridge	13	6	10	9	3	6	11	9	11	6
Buchtel College, Akron, O. . . . .	.	1	.	.	.	.	.	.	.	.
Bucknell University, Lewisburg, Pa.	2	1	.	.	.	.	.	.	2	.
*Buffalo, N. Y., High School	1	4	.	.	.	4	.	.	1	.
†Bulkeley School, New London, Conn. . . . .	.	.	.	.	1	.	.	.	.	.
*Burlington, Vt., High School . . . . .	.	1	.	.	.	.	.	.	.	.
*Calais, Me., High School . . . . .	.	.	.	.	.	.	.	.	.	.
*Cambridge Latin School	23	11	18	19	19	11	19	18	14	21
†Canandaigua, N. Y., Academy . . . . .	.	.	1	.	.	.	1	1	.	.
*Cape Vincent, N. Y., High School . . . . .	.	.	.	.	.	.	.	.	.	1
Carteret School, Short Hills, N. Y. . . . .	.	.	.	.	.	.	.	.	1	.
Casa Piedra School, Nordhoff, Cal. . . . .	.	.	.	1	.	.	.	.	.	.
Catskill, N. Y., Free Academy . . . . .	.	.	.	.	1	.	.	.	.	.
†Cazenovia, N. Y., Seminary	1	.	1	.	.	.	1	.	.	.
Centre College, Danville, Ky. . . . .	.	1	.	1	.	2	.	1	.	.
Chaffey College, Ontario, Cal. . . . .	.	.	1	.	.	.	1	.	.	.
*Charleston, S. C., High School . . . . .	.	.	.	1	.	.	.	1	.	.
*Charlestown High School . . . . .	.	.	.	.	1	.	.	.	.	.
Chauncy Hall School, Boston	3	3	4	1	2	3	4	1	1	.
*Chelsea High School	6	2	.	3	2	2	.	3	3	2
Cheltenham Academy, Ogontz, Pa.	1	.	.	.	.	.	.	.	.	.
*Chicago, Ill., High School	1	4	.	.	1	4	.	.	.	.
Chicago, Ill., Latin School . . . . .	.	.	.	.	.	.	.	.	2	2
*Chicago, Ill., North Division High School . . . . .	.	.	.	.	.	.	.	.	.	1
†Choate School, Wallingford, Conn. . . . .	.	.	.	.	.	.	.	1	.	.
*Cincinnati, O., Hughes High School . . . . .	.	1	1	.	2	2	1	.	2	.
*Cincinnati, O., Walnut Hills High School . . . . .	.	.	.	.	.	.	.	.	.	1
*Cincinnati, O., Woodward High School . . . . .	.	1	.	.	3	.	.	.	.	.
*Claremont, N. H., High School . . . . .	.	.	.	.	.	.	.	.	1	.
†Claverack, N. Y., Academy . . . . .	.	1	.	.	.	1	.	.	.	.
*Cleveland, O., Central High School	1	1	.	.	2	1	.	4	2	3
*Cleveland, O., South High School . . . . .	.	.	.	.	.	.	.	.	.	2
*Cleveland, O., West High School	1	.	.	.	3	.	.	.	.	1
*Clinton High School . . . . .	.	.	.	.	.	.	.	.	.	.
Colby University, Waterville, Me. . . . .	.	2	.	.	1	.	.	1	.	3
†Colgate Academy, Hamilton, N. Y. . . . .	.	.	.	.	.	.	.	.	.	1
Colgate University, Hamilton, N. Y. . . . .	.	.	.	1	.	.	.	1	.	.
College of Charleston, S. C. . . . .	.	.	.	.	.	.	.	.	1	.
College of the City of New York . . . . .	.	1	.	.	.	.	.	.	3	.
College of New Jersey, Princeton, N. J.	1	.	.	.	.	.	.	.	.	.
College Preparatory School, Wilmington, Del. . . . .	.	.	.	.	.	.	.	.	1	.

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
University School, Chicago, Ill.	3	2	3	3	4	2	4	3	3	4
†University School, Cleveland, O.			2	1			2	1	1	3
University School, Detroit, Mich.										1
University School, Washington, D. C.					1				1	3
Upper Iowa University, Fayette, Iowa		1	1							
U. S. Naval Academy, Annapolis, Md.	1									
*Utica, N. Y., Free Academy										1
Utica, N. Y., Preparatory School									2	
Vanderbilt University, Nashville, Tenn.		1							1	1
†Vermont Methodist Seminary, Montpelier, Vt.		1				1				
Volkman's School, Boston						1	8	2	3	6
*Wakefield High School	1	1	1		1	2	1		1	1
Wake Forest, N. C., College		1								
*Walpole High School										1
*Waltham High School	1	1	4	2	2	1	4	2	2	3
*Walton, Del., High School										1
*Washington, D. C., High School	3	1	1	1		1	1	1	1	1
Washington University, St. Louis, Mo.		2	1			2			3	
*Watertown High School	1	3	1		2	3	1		1	2
Waynesburg College, Waynesburg, Pa.									1	
*Wellesley High School									2	
*Wellsville, O., High School										1
†Wesleyan Academy, Wilbraham	1	1			1					
Wesleyan University, Middletown, Conn.		3	1	2	2	2		1		
*Westboro High School					1				1	
*Westerly, R. I., High School									1	
*Westfield, N. J., High School										1
Westminster School, Dobbs Ferry, N. Y.			1	1			1	1		
*West Orange, N. J., High School									1	
*Weymouth High School			1				1		1	
*Wichita, Kansas, High School					1					
Willamette University, Salem, Ore.										1
William Jewell College, Liberty, Mo.		1								
†William Penn Charter School, Philadelphia	1	1	4	1	3	1	4	1	1	
Williams College, Williamstown	2	2	3	2	1	2	2		1	
†Williston Seminary, East Hampton	1	2	1		1	2	1			
Wilson and Kellogg, Private School, New York.			2				2			
Wilson-Vail School, New York, N. Y.									1	
*Winchester High School		1	2		3	1	2	1		1
*Wisconsin State Normal Sch., Milwaukee, Wis.		1								
Wittenberg University, Springfield, O.		1		1	1	2				1
*Woburn High School	1		1	1			1	1		2
Woodbridge School, New York, N. Y.									1	1
*Woodstock, Vt., High School										1
†Worcester Academy	4	3	4	3	2	2	4	3	4	7
*Worcester High School	4	4	1	5	5	4	2	6	3	2
†Worcester Polytechnic Institute									1	
Yale College, New Haven, Conn.	1			1		1				2
*Yonkers, N. Y., High School		1				1				
*Youngstown, O., Rayen High School				1	1		1		1	2
Private Pupils	31	37	20	30	34	33	19	26	7	31

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Franklin School, Cincinnati, O.	1		1	4	1		1	4	2	
†Friends' Academy, New Bedford	2		1	1	1		1	2	1	
Friends' Central School, Philadelphia, Pa.				1						
Friends' School, Wilmington, Del.	1				1					
Friends' Select School, Washington, D.C.								1		
†Friends' Seminary, New York, N. Y.				1			1			
Frye's Private School, Boston			1			1	1	3	2	
Gates College, Neligh, Neb.								1		
*Geneseo Normal School, N. Y.	1	1					1			
Georgetown College, D. C.							1	1	1	
Germantown Academy, Pa.								1		
†Gilbert School, Winsted, Conn.									1	
*Gloucester High School					5				1	
Gouverneur Seminary, Gouverneur, N. Y.	1									
*Grafton High School									1	
*Groton High School								1		
†Groton School, Groton	6	8	6	10	5	8	6	10	16	15
Grove City College, Pa.	1							1		1
Gunnery School, Washington, Conn.								1	2	
Hale School, Boston	1	2	3	4	2	2	3	4	3	2
Halsted School, Yonkers, N. Y.								1		
Hamilton College, Clinton, N. Y.								1	1	
Hamline University, St. Paul, Minn.	1	1					1			
Hampten Sidney College, Va.								1		
Hanover College, Hanover, Ind.									1	
†Harry Hillman Academy, Wilkes-Barre, Pa.				1						
Hartford, Conn., Classical School			1				1			
*Hartford, Conn., High School		1				1				
Harvard Graduate Students				1						
Harvard College Special Students	29	22	13	18	28	30	36	35	21	30
Harvard Law School		1	1	1						
Harvard School, Chicago, Ill.		1	1	3	1	1	1	3		
Harvard School, New York		1	1			1	1			
Haverford College, Pa.	7	6	4	3	2	2	4	1	2	4
†Haverford, Pa., College Grammar									3	
*Haverhill High School	2		4		6		4		3	1
Heathcote School, Buffalo, N. Y.	2	1		2		1		2	2	
†Hiawatha, Kan., Academy			1			1				
†Highland Academy, Worcester				1						
Hildreth's Classical School, Boston								2	2	
Hill School, Pottstown, Pa.		2		1	2	2		1	1	3
*Hingham High School	1		2	1			2	1		1
Hiram College, Hiram, O.									1	
Hobart College, Geneva, N. Y.	2					1				
Holbrooks' Military Academy, Sing Sing, N.Y.								1		
Holy Cross College, Worcester	1		1				1	1		
*Holyoke High School									1	
Hopkinson, J. P., Private School, Boston	19	39	27	24	35	34	26	23	18	14
Horace Mann School, New York, N.Y.									2	
†Hotchkiss School, Lakeville, Conn.					2				1	
Howard Collegiate Institute, Bridgewater								1		
Howard University, Washington, D. C.			1				1			
†Howe Military School, Lima, Ind.									3	
Huntingdon Normal College, Huntingdon, Pa.		1								
*Hyde Park High School	1	1	1	1		1	1	1		1
Illinois State Normal University, Normal, Ill.	2	1				1				
Illinois Wesleyan College, Bloomington, Ill.					2	1	1		1	
*Indiana State Normal School, Indiana, Pa.	1									

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No. 5. Contributions from the Zoölogical Laboratory. XCIX. Observations on Non-sexual Reproduction in *Dero Vaga*. By T. W. Galloway. pp. 28. 5 Plates. October, 1899.

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No. 3. Fossil Lepidosteids from the Green River Shales of Wyoming. By C. R. Eastman. pp. 12. 2 Plates. August, 1900.

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
*Milton High School . . . . .	.	.	.	1	.	.	.	1	2	.
Milwaukee, Wis., Academy . . . . .	.	.	.	.	.	.	.	1	1	.
*Milwaukee, Wis., East Side High School . . . . .	.	.	.	.	.	.	.	.	1	2
*Milwaukee, Wis., High School	3	.	1	.	.	.	1	.	.	.
Mississippi College, Clinton, Miss. . . . .	.	.	.	.	.	.	1	1	.	.
*Missouri State Normal School, Warrensburg, Mo.	2	.	.	.	.	.	.	.	.	.
Missouri University, Columbia, Mo. . . . .	.	.	.	.	.	.	.	.	.	.
Mohegan Lake Academy, Peekskill, N. Y. . . . .	.	.	1	.	.	1	.	.	.	.
†Monson Academy, Monson . . . . .	.	.	.	.	.	.	.	.	.	1
*Montclair, N. J., High School	1	.	.	.	1	.	.	.	.	1
Morgan Park Academy, Morgan Park, Ill. . . . .	.	.	.	.	1	.	.	1	.	.
†Morristown School, Morristown, N. J. . . . .	.	.	.	.	.	.	.	.	2	1
Morse, J. H., Private School, New York	1	.	.	.	1	2	.	1	.	.
Mt. Allison College, Sackville, N. B.	1	2	1	.	5	4	.	1	.	.
Mt. Union College, Alliance, O. . . . .	.	.	.	.	1	1	.	1	.	.
*Nashua, N. H., High School	1	.	.	.	1	.	.	.	.	.
National Capital School, Washington, D. C. . . . .	.	.	.	.	.	.	.	.	.	1
†Nat. Germ.-Am. Teacher's Sem., Milwaukee, Wis. . . . .	.	.	.	.	.	.	.	.	.	1
National University, Washington, D. C.	1	.	.	.	.	.	.	.	.	.
*Needham High School . . . . .	.	.	1	.	.	.	1	2	.	.
†Newark, N. J., Academy . . . . .	.	.	.	.	.	.	.	.	.	1
*New Bedford High School	1	1	.	.	1	1	.	1	1	.
*Newburgh Academy, Newburgh, N. Y. . . . .	.	.	.	.	.	.	.	1	.	.
*Newburyport, Brown High and Putnam Schools . . . . .	.	.	1	.	.	.	1	.	.	4
†New Church School, Waltham	2	.	.	.	2	.	.	.	.	.
*Newport R. I., Rogers High School	1	2	.	1	3	2	.	1	.	.
*Newton High School, Newtonville	7	5	4	9	11	5	4	10	2	8
New Windsor College, New Windsor, Md. . . . .	.	1	1	.	.	1	.	.	.	.
Nichols, Wm., Private School, Boston	2	3	.	.	.	.	.	.	.	.
Nichols, Wm., Buffalo, N. Y. . . . .	.	.	.	.	3	2	.	2	1	.
Noble & Greenough, Private School	4	5	11	8	8	5	12	7	21	8
*North Adams, Drury High School . . . . .	.	.	.	.	1	.	.	.	.	2
*Northampton High School . . . . .	.	1	.	.	1	1	.	.	.	.
*North Attleboro High School . . . . .	.	.	.	.	.	.	.	1	2	.
Northern Indiana Normal School	1	.	.	.	1	.	.	.	.	.
Northwestern University, Evanston, Ill. . . . .	.	1	.	.	.	.	.	1	.	.
†Norwich, Conn., Free Academy . . . . .	.	.	.	2	.	.	.	2	.	.
*Norwich, Conn., High School	1	.	.	.	.	.	.	.	.	.
*Norwood High School . . . . .	.	.	.	.	.	1	.	.	.	.
Oahu College, Honolulu, H. I. . . . .	.	.	.	.	.	.	.	.	.	1
Oberlin Academy, Oberlin, O. . . . .	.	.	.	1	.	.	.	.	.	.
Oberlin College, Oberlin, O.	1	.	.	1	1	2	.	3	.	.
Ohio State University, Columbus, O.	2	1	.	.	.	.	.	.	2	1
Ohio University, Athens, O. . . . .	.	.	.	.	.	.	.	1	1	.
Ohio Wesleyan University, Delaware, O.	1	4	4	.	.	.	3	.	.	1
Olivet College, Olivet, Mich. . . . .	.	.	.	1	.	1	.	.	.	.
*Omaha, Neb., High School	3	.	.	.	1	.	.	1	.	.
*Oneonta State Normal School, Oneonta, N. Y. . . . .	.	.	.	.	.	.	.	1	.	.
Oswego, N. Y., Free Academy . . . . .	.	.	.	1	1	.	.	1	.	.
*Oswego, N. Y., High School	1	.	.	.	.	1	.	.	.	.
Ottawa University, Ottawa, Can. . . . .	.	1	.	.	.	.	.	.	.	.
Ottawa University, Ottawa, Kan. . . . .	.	.	.	.	.	.	.	.	.	1
Otterbein University, Westerville, O.	1	.	.	2	.	.	.	.	.	.
Palatinate College	1	.	.	.	.	1	.	.	.	.
Parsons College, Fairfield, Ia. . . . .	.	.	1	.	.	.	.	.	.	.
*Pawtucket, R. I., High School	2	.	.	.	.	.	.	.	.	.
*Peabody High School . . . . .	.	.	1	.	.	.	1	.	.	2
*Peoria, Ill., High School . . . . .	.	.	.	.	.	.	.	.	.	1

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
†Perkiomen Seminary, Pennsburg, Pa. . . . .	.	.	.	.	.	.	.	1		
*Philadelphia, Pa., High School . . . . .	.	.	.	1	.	.	.	1	1	2
†Phillips Academy, Andover	13	17	18	20	19	15	16	19	9	15
†Phillips Academy, Exeter, N. H.	34	26	23	20	20	22	20	20	30	34
†Pingry School, Elizabeth, N. J. . . . .	.	.	.	1	.	.	.	.	.	.
†Pinkerton Academy, Derry, N. H. . . . .	.	.	.	1	.	.	1	.	.	.
*Pittsburgh, Pa., Central High School . . . . .	.	.	.	1	.	.	1	.	.	.
*Pittsfield High School	1	1	.	.	.	1	.	.	.	.
*Plymouth High School . . . . .	.	.	.	.	.	.	.	1	.	1
Pomfret School, Pomfret, Conn. . . . .	.	.	.	.	.	.	.	.	5	9
*Portland, Me., High School	3	1	2	6	3	1	2	2	3	3
†Portland, Ore., Academy . . . . .	.	.	.	.	.	.	.	2	2	2
*Portsmouth, N. H., High School . . . . .	.	.	2	1	.	2	1	.	.	1
Powder Point School, Duxbury . . . . .	.	.	.	1	.	.	1	2	1	.
Princeville, Ill., Academy . . . . .	.	.	.	.	.	.	.	.	1	.
†Proctor Academy, Andover, N. H. . . . .	.	.	.	1	.	.	.	.	.	.
*Providence, R. I., High School . . . . .	.	.	.	1	.	.	.	.	2	.
Providence, R. I., University Grammar School . . . . .	.	1	.	.	1	.	.	.	.	.
Putnam's School, Washington, D. C.	1	.	.	1	.	.	1	.	.	.
Queen's College, Kingston, Ont. . . . .	.	.	.	.	.	.	1	.	.	.
*Quincy High School . . . . .	.	.	.	.	.	.	.	2	1	.
*Reading High School . . . . .	.	.	1	.	.	.	1	.	1	.
*Reading, Pa., Boy's High School . . . . .	.	.	.	.	.	.	.	1	3	.
*Redlands, Cal., University High School . . . . .	.	.	.	1	.	.	.	.	.	.
Rideoute, Miss C. L., Private School, Boston	3	1	.	2	1	1	.	2	.	.
Riverview Academy, Poughkeepsie, N. Y.	2	.	.	1	5	.	1	.	.	.
†Rochester, N. Y., Free Academy	1	.	.	.	.	.	.	.	.	.
*Rochester, N. Y., High School . . . . .	.	.	.	.	.	.	1	.	.	.
†Rockland High School . . . . .	.	.	1	.	3	.	1	.	1	.
*Roxbury High School . . . . .	.	.	.	.	1	.	.	.	1	2
†Roxbury Latin School	12	12	18	20	17	12	17	19	22	16
Rugby Academy, St. Louis, Mo. . . . .	.	.	.	1	.	.	1	.	.	.
*Rugby Grammar School, New York	1	.	.	.	.	.	.	.	.	.
†Rugby School, Kenilworth, Ill. . . . .	.	.	.	.	.	.	.	2	1	.
†Rutger's Preparatory School, New Brunswick, N. J. . . . .	.	1	.	.	.	1	.	.	.	.
†Sach's Collegiate Institute, New York	4	5	11	1	2	3	10	1	5	3
St. Albans, Vt., Academy, . . . . .	.	1	.	.	.	1	.	.	.	.
St. Austin's School, West New Brighton, N. Y. . . . .	.	1	.	1	.	1	.	1	2	.
St. Georges School, Newport, R. I. . . . .	.	.	.	.	.	.	.	.	.	1
St. Lawrence University, Canton, N. Y.	1	.	.	.	.	.	.	.	1	1
*St. Louis, Mo., High School . . . . .	.	1	.	.	.	1	.	2	1	.
St. Louis University . . . . .	.	.	.	.	.	.	.	.	.	.
†St. Mark's School, Southboro	6	3	6	7	8	3	7	6	12	16
*St. Paul, Minn., High School . . . . .	.	2	2	.	3	2	1	.	1	.
†St. Paul's School, Concord, N. H.	13	17	15	8	19	9	12	8	15	10
†St. Paul's School, Garden City, L. I.	1	.	2	.	.	9	5	1	.	2
St. Stephen's College, Annandale, N. Y.	1	.	1	.	.	.	1	.	.	.
St. Thomas Aquinas College, Cambridgeport . . . . .	.	.	.	.	.	.	.	1	.	.
*Salem High School	5	.	5	6	5	.	5	5	2	5
Salina, Kan., Military School . . . . .	.	.	1	.	.	.	1	.	.	.
*Sandwich High School . . . . .	.	.	.	1	.	.	.	1	.	.
*Saugus High School . . . . .	.	.	.	.	.	.	.	.	2	.
*Scranton, Pa., High School . . . . .	.	.	.	.	.	.	.	.	.	1
Scranton, Pa., School of the Lackawanna . . . . .	.	.	.	.	.	.	.	1	.	.
†Shadyside Academy, Pittsburg, Pa. . . . .	.	.	.	.	.	.	.	.	1	.
†Shattuck School, Faribault, Minn. . . . .	.	.	1	.	.	1	.	.	.	.
Simpson College, Indianola, Ia.	1	.	.	.	.	.	.	.	.	.
†Smith Academy, St. Louis, Mo. . . . .	.	.	1	3	5	.	.	3	2	4

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
Smith, Miss K. V., Private School, Cambridge . . . . .	.	.	2	.	.	2	.	1	.	.
*Somerville Latin High School	8	6	9	3	3	6	11	4	9	6
Southwestern Presby. Univ., Clarksville, Tenn. . . . .	.	.	1	.	.	.	.	.	.	.
Southwestern Baptist University, Jackson, Tenn. . . . .	.	.	.	.	.	.	.	1	.	.
*Springfield High School	3	2	3	3	3	1	4	2	5	.
State University of Iowa, Iowa City, Ia. . . . .	.	.	.	.	.	.	.	1	.	.
†Staten Island Academy, Stapleton, N. Y. . . . .	.	.	1	1	.	.	1	1	.	.
†Stevens Institute, Brooklyn, N. Y.	1	.	.	.	.	.	.	.	.	.
Stone's Private School, Boston	3	.	.	4	2	1	.	5	5	6
Swarthmore, Pa., College . . . . .	.	.	1	1	.	1	.	1	.	.
Syracuse University, N. Y.	2	1	1	1	3	1	.	.	2	.
†Tabor Academy, Marion . . . . .	.	1	.	1	1	.	1	.	1	.
*Taunton High School	3	4	2	1	4	4	2	1	1	.
*Terre Haute, Ind., High School . . . . .	.	.	.	.	.	.	.	.	1	.
†Thayer Academy, Braintree	1	1	1	.	.	1	3	.	1	2
†Thornton Academy, Saco, Me. . . . .	.	.	.	.	1	.	.	.	.	.
*Topeka, Neb., High School	1	.	.	.	.	.	.	.	.	.
Trinity College, Hartford, Conn. . . . .	.	.	.	3	.	1	.	2	.	.
Trinity College, Toronto, Canada . . . . .	.	.	.	.	.	.	.	.	1	.
Tufts College, College Hill . . . . .	.	.	1	.	1	.	.	.	1	.
Tulane University, New Orleans, La. . . . .	.	.	.	.	2	.	2	.	.	.
Tusculum College, Tenn. . . . .	.	.	.	.	.	.	.	1	.	.
†Union Academy, Belleville, N. Y.	1	.	1	.	1	.	.	.	.	.
Union College, Schenectady, N. Y. . . . .	.	1	.	.	.	.	1	.	.	.
University of Alabama, Tuscaloosa, Ala. . . . .	.	.	.	.	.	.	.	1	.	.
University of California, Berkeley, Cal.	3	1	1	.	1	2	1	4	1	.
University of Chicago, Ill. . . . .	.	1	2	1	.	1	.	.	3	.
University of Cincinnati, O. . . . .	.	.	1	.	.	.	.	.	2	.
University of Colorado, Boulder, Colo. . . . .	.	.	.	.	.	.	.	1	.	.
University of Durham, England	1	.	.	.	.	.	1	.	.	.
University of Georgia, Athens, Ga. . . . .	.	.	1	.	3	3	.	.	1	.
University of Illinois, Champaign, Ill. . . . .	.	.	.	.	.	.	.	2	.	.
University of Kansas, Lawrence, Kan.	3	1	3	5	2	.	.	3	1	.
University of King's College, Windsor, N. S. . . . .	.	.	.	.	.	.	.	.	1	.
University of Michigan, Ann Arbor, Mich.	1	1	.	.	1	2	.	.	1	.
University of Minnesota, Minneapolis, Minn. . . . .	.	1	2	.	1	.	.	1	.	.
University of Mississippi, University, Miss. . . . .	.	1	.	.	.	.	.	.	.	.
University of Missouri, Columbia, Mo.	1	.	.	.	.	.	.	.	1	.
University of Montana, Missoula, Mont. . . . .	.	.	.	.	.	.	.	.	.	.
University of Nashville, Tenn. . . . .	.	1	.	.	1	.	.	.	.	.
University of Nebraska, Lincoln, Neb. . . . .	.	1	.	.	.	.	2	.	.	.
University of New Brunswick, Fredericton, N. B.	1	.	1	.	.	1	.	.	2	.
University of New York, N. Y. . . . .	.	.	.	.	.	.	.	1	.	.
University of North Carolina, Chapel Hill, N. C.	1	.	.	.	.	.	.	1	1	.
University of Oregon, Eugene City, Ore. . . . .	.	1	.	.	.	.	.	.	.	.
University of Pennsylvania, Philadelphia, Pa.	2	1	.	1	.	.	.	.	1	.
University of Rochester, N. Y. . . . .	.	.	.	.	.	.	.	1	1	.
University of South Carolina, Columbia, S. C. . . . .	.	1	.	.	.	.	.	.	.	.
University of the South, Sewanee, Tenn. . . . .	.	.	.	.	.	.	.	1	.	.
University of Tennessee, Knoxville, Tenn. . . . .	.	.	.	.	.	.	.	1	.	.
University of Toronto, Can. . . . .	.	.	1	.	1	.	.	.	.	.
University of Utah, Salt Lake City, U. . . . .	.	.	.	.	.	.	.	1	.	.
University of Vermont, Burlington, Vt. . . . .	.	.	.	.	.	.	.	.	1	.
University of Washington, Seattle, Wash. . . . .	.	.	1	.	.	.	1	.	.	.
University of West Virginia, Morgantown, W. Va.	1	.	1	.	1	.	.	.	.	.
University of Wisconsin, Madison, Wis.	2	2	.	1	.	.	.	.	1	.
University of Wooster, Wooster, O. . . . .	.	1	.	1	.	.	.	1	.	.</

SCHOOL OR COLLEGE.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
University School, Chicago, Ill.	3	2	3	3	4	2	4	3	3	4
†University School, Cleveland, O.			2	1			2	1	1	3
University School, Detroit, Mich.										1
University School, Washington, D. C.					1				1	3
Upper Iowa University, Fayette, Iowa		1	1							
U. S. Naval Academy, Annapolis, Md.	1									
*Utica, N. Y., Free Academy										1
Utica, N. Y., Preparatory School								2		
Vanderbilt University, Nashville, Tenn.								1	1	
†Vermont Methodist Seminary, Montpelier, Vt.		1				1				
Volkman's School, Boston						1	8	2	3	6
*Wakefield High School	1	1	1		1	2	1		1	1
Wake Forest, N. C., College		1								
*Walpole High School										1
*Waltham High School	1	1	4	2	2	1	4	2	2	3
*Walton, Del., High School										1
*Washington, D. C., High School	3	1	1	1		1	1	1	1	
Washington University, St. Louis, Mo.		2	1			2			3	
*Watertown High School	1	3	1		2	3	1		1	2
Waynesburg College, Waynesburg, Pa.								1		
*Wellesley High School								2		
*Wellesville, O., High School										1
†Wesleyan Academy, Wilbraham	1	1				1				
Wesleyan University, Middletown, Conn.		3	1	2	2	2		1		
*Westboro High School					1				1	
*Westerly, R. I., High School								1		
*Westfield, N. J., High School										1
Westminster School, Dobbs Ferry, N. Y.			1	1			1	1		
*West Orange, N. J., High School								1		
*Weymouth High School			1				1	1		
*Wichita, Kansas, High School					1					
Willamette University, Salem, Ore.										1
William Jewell College, Liberty, Mo.		1								
†William Penn Charter School, Philadelphia	1	1	4	1	3	1	4	1	1	
Williams College, Williamstown	2	2	3	2	1	2	2		1	
†Williston Seminary, East Hampton	1	2	1		1	2	1			
Wilson and Kellogg, Private School, New York.			2				2			
Wilson-Vail School, New York, N. Y.									1	
*Winchester High School		1	2		3	1	2	1		1
*Wisconsin State Normal Sch., Milwaukee, Wis.		1								
Wittenberg University, Springfield, O.		1		1	1	2				1
*Woburn High School	1		1	1			1	1		2
Woodbridge School, New York, N. Y.								1	1	
*Woodstock, Vt., High School										1
†Worcester Academy	4	3	4	3	2	2	4	3	4	7
*Worcester High School	4	4	1	5	5	4	2	6	3	2
†Worcester Polytechnic Institute									1	
Yale College, New Haven, Conn.	1			1		1				2
*Yonkers, N. Y., High School		1				1				
*Youngstown, O., Rayen High School				1	1		1		1	2
Private Pupils	31	37	20	30	34	33	19	26	7	31

AGE OF STUDENTS WHO ENTERED THE FRESHMAN CLASS OF HARVARD COLLEGE 1870—1900 INCLUSIVE.

Year	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	30-31	31-35	35-46	Average Age.	No. adm.*
1870		3	19	76	53	29	11	4	4	1	1			1						18 yrs. 4½ mos.	203
1871		6	24	59	62	28	16	4	2	1	1			1						18 " 3½ "	201
1872		2	20	51	65	29	12	4	2	1				1						18 " 5½ "	188
1873	1	2	19	52	76	43	17	11	3	4	2	5		1						18 " 10½ "	236
1874	1	2	19	61	58	42	7	4	1	2	2	2		1						18 " 6½ "	202
1875	1	1	12	78	93	49	10	7	3	4	1									18 " 6½ "	258
1876		1	12	58	60	53	20	7	2	2	1		1							18 " 9 "	217
1877		2	16	52	80	53	23	9	6	3	1									18 " 9½ "	245
1878		2	14	52	78	45	23	7	9		1									18 " 9½ "	230
1879		1	16	49	86	53	19	15	4	1	1	1	1	1						18 " 11 "	248
1880		1	12	52	84	53	24	9	3	4	1	2	1	1						18 " 11½ "	247
1881		3	10	38	73	55	31	10	8	1	1									19 "	230
1882	1	3	11	58	89	60	28	12	4	5	1	2				1				19 "	275
1883			17	65	100	61	23	7	2	2	1									18 " 9½ "	285
1884	1		13	63	90	72	29	8	4	1	5	1								18 " 10½ "	286
1885	2		10	63	89	56	40	6	4	4	1	2								19 " 1½ "	281
1886		4	14	64	116	67	29	12	3	3	2	1	2			1				18 " 11½ "	321
1887			8	71	108	87	26	7	12	3	2	3	4	2						19 " 2½ "	338
1888		2	11	58	123	68	42	19	8	5	4	3	4	3						19 " 3½ "	352
1889		1	14	68	124	96	32	12	5	9	1	2	2	1						19 " 7½ "	388
1890		2	14	64	129	102	37	26	6	9	10	2	2	4	3	3	1	1		19 " 4½ "	408
1891		2	24	82	141	97	40	17	13	7	7	3	4	1	1					19 " 2½ "	441
1892		2	19	88	155	120	56	20	12	4	3	5	2	1	1					19 " 0½ "	487
1893		2	7	100	162	102	47	20	7	7	6	4	1	1						19 " 1½ "	467
1894	1	3	13	85	142	128	44	20	9	9	5	2	1	1	1					19 " 2½ "	465
1895		3	20	99	185	111	42	19	13	7	7	6	4	1						19 " 0½ "	517
1896		1	24	99	155	109	35	18	12	7	7	5	3	3			1			19 " 1½ "	481
1897		1	27	120	181	121	51	28	17	6	9	2	1	3	1	2				19 " 1½ "	571
1898		3	16	104	184	109	41	14	10	6	3	3	1	1	1					19 " 1½ "	500
1899		1	25	105	180	124	30	18	12	9	2	3	1	1						18 " 11½ "	515
1900		2	23	105	184	121	47	12	6	1	2		2	1						18 " 11½ "	506

* On the assumption that all who ever joined each class were admitted as Freshmen.

**PUBLICATIONS OF THE MUSEUM OF COMPARATIVE
ZOOLOGY FOR THE ACADEMIC YEAR 1899-1900.**

Bulletin : —

Vol. XXXII.

No. 10. Reports on the Results of Dredging by the United States Coast Survey Steamer "Blake." XXXVIII. Étude Monographique des Pleurotomaires Actuels. Par E. L. Bouvier et H. Fischer. pp. 56. 4 Plates. September, 1899.

Vol. XXXIV.

THE GEOLOGY AND PHYSICAL GEOGRAPHY OF JAMAICA: Study of a Type of Antillean Development. By Robert T. Hill. With an Appendix on some Cretaceous and Eocene Corals from Jamaica. By T. W. Vaughan. pp. 256. 41 Plates. September, 1899.

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No. 3. Studies from the Newport Marine Laboratory. XLII. Longitudinal Fission in *Metridium Marginatum* Milne-Edwards. By G. H. Parker. pp. 16. 3 Plates. October, 1899.

No. 4. Contributions from the Zoölogical Laboratory. XCVIII. Oogenesis in *Distaplia Occidentalis* Ritter (MS.), with Remarks on Other Species. By Frank W. Bancroft. pp. 56. 6 Plates. October, 1899.

No. 5. Contributions from the Zoölogical Laboratory. XCIX. Observations on Non-sexual Reproduction in *Dero Vaga*. By T. W. Galloway. pp. 28. 5 Plates. October, 1899.

No. 6. Contributions from the Zoölogical Laboratory. C. The Photochemical Changes in the Retinal Pigment of *Gammarus*. By G. H. Parker. pp. 8. 1 Plate. October, 1899.

No. 7. Contributions from the Zoölogical Laboratory. No. 105. The Structure and Development of the Antennal Glands in *Homarus Americanus* Milne-Edwards. By Frederick C. Waite. pp. 62. 6 Plates. December, 1899.

No. 8. Contributions from the Zoölogical Laboratory. No. 109. Maturation and Fertilization in Pulmonate Gasteropods. By Henry R. Linville. pp. 38. 4 Plates. May, 1900.

Vol. XXXVI.

No. 1. An Atlantic "Palolo," *Staurocephalus gregaricus*. By A. G. Mayer. pp. 14. 3 Plates. June, 1900.

No. 2. Contributions from the Zoölogical Laboratory. No. 112. Some North American Fresh-Water Rhynchobdellidæ, and their Parasites. By W. E. Castle. pp. 50. 8 Plates. August, 1900.

No. 3. Fossil Lepidosteids from the Green River Shales of Wyoming. By C. R. Eastman. pp. 12. 2 Plates. August, 1900.

No. 4. Characters and Relations of *Gallinuloides*, a Fossil Gallinaceous Bird from the Green River Shales of Wyoming. By F. A. Lucas. pp. 8. 1 Plate. August, 1900.

Vol. XXXVII.

No. 1. Descriptions of new and little known *Medusæ* from the Western Atlantic. By A. G. Mayer. pp. 10. 6 Plates. June, 1900.

No. 2. Some *Medusæ* from the Tortugas, Florida. By A. G. Mayer. pp. 72. 44 Plates. July, 1900.

Memoirs : —

Vol. XXIII.

No. 2. Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in charge of Alexander Agassiz, by the United States Fish Commission Steamer "Albatross" during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXV. The Ophiuridæ. By C. F. Lutken and Th. Mortensen. pp. 116. 23 Plates. November, 1899.

Vol. XXIV.

Reports on an Exploration off the West Coasts of Mexico, Central and South America, and off the Galapagos Islands, in charge of Alexander Agassiz, by the United States Fish Commission Steamer "Albatross," during 1891, Lieut. Commander Z. L. Tanner, U. S. N., Commanding. XXVI. The Fishes. By S. Garman. pp. 431. 98 Plates. December, 1899.

Report : —

1898-99. pp. 21. 1 Plate. September, 1899.

CAMBRIDGE, MASS., 10 Nov. 1900.

PRESIDENT ELIOT : —

DEAR SIR, — The total receipts for the Cuban Teachers' fund are thus reported by Mr. Fowler this morning. Subscriptions \$69,785.33; Kindergarten gift, \$500; Sloyd gift, \$400; Blackmar, on account of programmes, \$460; total, \$71,145.33.

Payments were made as follows, viz. : —

		\$71,145.33
Teaching	\$8,411.49	
Entertainments	265.14	
Memorial Hall	13,833.24	
Randall Hall	10,570.94	
Colonial Club	193.45	
Public Rooms	517.13	
Dormitories	5,603.65	
Women's Lodgings	13,455.25	
Business Offices	6,705.42	
Mr. Higginson, Circulars, etc.	418.21	
Transportation	5,190.41	
Laundry	997.44	
Police	17.10	
Medical Care	1,029.86	
Deficit on purchase and sale of books	135.35	
Sloyd	367.88	
Kindergarten	393.40	
	<hr/>	
	\$68,105.36	
Balance	3,039.97	
	<hr/>	
	\$71,145.33	\$71,145.33
	<hr/>	<hr/>
Cuban Salaries paid	\$60,257.70	
Safety deposits	485.50	

Respectfully,

CHARLES F. MASON,
Bursar.

Name of Dormitory	Apley Ct	Beck	Claverly	Coll. House	Conant	Craigie	Dana	Divinity	Dunster	Felton	Foxcroft	Gray	Fairfax	Hollis	Holworthy	Holyoke	Little's	Mathews	Perkins	Quincy	Randolph	Read's	Russell	Stoughton	Thayer	Trinity	W. H.	Ware	Weld	Westmorly	Other parts of Camb.	Out of C.	No address	Totals
Resident students	2032	86	10148	12238	5739	2317	6433	5146	6137	108	12115	7922	4753	114	16102	85	85	38																
Cases of																																		
Appendicitis	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	
Chicken-pox	17	29	79	1725	430	2	619	1312	2231	11	58	46	9	54	13	68	9	31	42	36	23	321	52	179	1416									
Colds																																		
Constipation	3	7	9	4	1	5	1	2	11	3	5	7	3	7	5	22	3	19	3	17	6	8	6	12	48	2	43	285						
Diarrhoea																																		
Diphtheria																																		
Ears																																		
Eyes	4	3	6	2	3	8	4	21	1	4	3	3	4	2	2	16	9	1	6	2	1	1	2	2	8	1	3	9	10	5	71	13	41	266
General Debility																																		
Headache	4	5	6	2	7	5	1	1	1	1	1	1	1	1	1	14	4	1	3	2	3	2	2	3	10	5	4	15	3	46	13	41	209	
Indigestion	2	5	13	6	9	10	5	3	6	2	3	3	6	3	10	10	12	14	2	10	4	13	10	21	2	10	8	7	6	91	12	49	370	
Jaundice	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	
La Grippe	1	1	5	11	4	3	2	1	2	2	6	1	5	1	10	5	6	1	3	6	6	1	3	2	6	45	14	59	20	45	14	59	20	
Malaria	2	3	2	6	2	12	3	1	2	2	3	2	1	5	6	4	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	31	
Measles	5	11	23	8	2	16	9	11	1	1	7	10	2	7	5	18	4	3	12	2	12	5	18	3	5	12	9	11	107	45	110	494		
Miscellaneous	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	2	3	1	1	2	1	2	1	2	1	1	1	1	16	2	1	44		
Mumps	1	1	8	2	1	1	1	1	2	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	1	1	1	2	1	3	20		
Neuralgia	1	1	5	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Overwork																																		
Pneumonia																																		
Rheumatism																																		
Scarlet Fever																																		
Skin Diseases																																		
Surgical	3	7	9	13	5	6	2	5	10	3	7	2	7	6	8	3	13	11	3	7	2	5	5	6	6	14	10	9	5	89	16	38	335	
Tonsillitis	5	3	7	4	11	6	1	2	1	2	5	3	1	3	1	8	15	1	7	1	4	4	10	3	4	6	8	3	4	6	8	3	30	
Typhoid																																		
Totals	3977	169	10261	17065	3384	1219	5163	5048	9344	181	132	25	137	34	121	59	180	38	99	113	114	74	1055	202	648	4392								

CIRCULAR ISSUED MAY 12, 1900.

THE EXPEDITION OF THE CUBAN TEACHERS TO THE UNITED STATES.

The following telegram was received from Major-General Leonard Wood on the afternoon of May 2nd:—

“HAVANA.—The trip of the Cuban teachers to the United States will be of great value to education in Cuba, and will do much to improve the present methods of teaching. In no better way can the people of the United States show interest in the building up of Cuba.”

The trip to which the Military Governor of Cuba refers can now be described with some accuracy, the main arrangements for it having been almost completed. Five Government transports sailing from different ports of Cuba will bring to Boston, about July 1st, 1,450 Cuban teachers selected from all parts of the Island, rural as well as urban. The selection is to be made by the same Cuban Boards which appointed 3,500 teachers for the Cuban schools about four months ago. The Cuban School Law provides that the salaries of teachers (which range from \$30 to \$75 a month) continue during the vacation, and that the teachers are expected to attend in vacation summer schools or institutes. These 1,450 selected teachers are to attend a summer school at Harvard University. The United States Government provides the necessary transports for the voyage to Boston and the return from New York to Cuba; and furnishes meals and service while the teachers are on the transports. The expedition will be accompanied by five surgeons and by several ladies of distinction.

For six weeks and a half from the time of their arrival in Boston the teachers are to be in charge of Harvard University, which has made itself responsible not only for their instruction, but for their board and lodging. The University has assumed this responsibility relying solely on the hospitality and patriotic generosity of the people of Massachusetts, the University itself having no money which can be properly applied to this purpose. The University gives the labor of many of its own officers and servants; the students have given the use of their rooms for the men teachers; and many of the householders of Cambridge will receive the Cuban women into their houses either gratuitously or at low rates. The dining-halls, lecture-rooms, and collections of the University are to be put at the disposition of the visitors.

The instruction to be provided will include: (1) Systematic instruction in the English language, the whole body being divided for this purpose into forty sections of about thirty-six persons each. The forty teachers for these sections will all know some Spanish, most of them being drawn from former or present Spanish classes in Harvard and Radcliffe Colleges. (2) For a natural history subject of instruction physical geography, or physiography, has been selected. Lectures in Spanish illustrated by the stereopticon will be given on this subject, and the teaching of the lecture-room will be enforced by afternoon excursions to twelve different localities in the neighborhood of Boston which illustrate the main processes by which the present forms have been given to the landscape. The Cuban teachers will go on these excursions in groups of 240, each group being divided into three sections of 80, and each section being provided with a geography teacher and an interpreter. It is hoped by these means to give the Cuban teachers a good example of natural history teaching. (3) The next subject of instruction will be history under two heads—American history taught by lectures in Spanish illustrated by the stereopticon, and the history of the Spanish Colonies in North and South America, taught in the same way. The slow development of free institutions will be brought out in the lectures on American history; and the lectures on the history of the Spanish Colonies cannot but bring vividly before the Cubans the many vicissitudes through which Mexico, Central America, and the South American republics have passed. (4) Instruction in two elective subjects will also be offered,—a course of lectures in Spanish on botany accompanied by demonstrations, and a course on kindergarten instruction with practical illustrations. The course in botany will have to be limited to 200 students. These two elective courses are provided for by special gifts.

In addition to the geographical excursions a few excursions will be made to places of historical interest, and to some industrial establishments in Boston and the vicinity. Two lectures will be provided on the organization of American schools, and visits will be made to good types of school buildings. Two lectures on free libraries will also be provided.

The cost of these various provisions for 1,450 persons, including their board and lodging for six weeks and a half, cannot safely be estimated at less than \$45 per person. The President and Fellows of Harvard College have, therefore, asked the community to provide \$70,000 to cover the cost of the undertaking in Cambridge.

At the close of the summer school it is proposed to carry the Cuban teachers to Niagara, Chicago, and Washington, and thence to New York; but the cost of this journey is to be separately provided for.

The objects of the expedition will not be fulfilled in the best manner unless a cordial and prompt hospitality is shown by the community. The effect on the minds and hearts of the teachers is not to be produced chiefly through actual instruction given them, — it is to be produced by the sight of our people and our homes, and through personal acquaintance with our modes of life and with the evidences of our civilization. The result of the undertaking should be to plant in every Cuban village a teacher who has seen the best side of American life, and who has learned a little about the organization of public instruction in the United States, and about the best methods of teaching in language, history, and natural history. As Major-General Wood says in the telegram received on the 2nd of May, "*In no better way can the people of the United States show interest in the building up of Cuba.*"

The following letter has been received from the Secretary of War: —

WAR DEPARTMENT, WASHINGTON,
MAY 8, 1900.

DEAR PRESIDENT ELIOT: Let me express my high appreciation of the response which Harvard is making to Mr. Frye's appeal for the entertainment and instruction of the Cuban teachers. . . .

I think we have all the transportation arrangements substantially made, and five steamers will be ready at the time proposed, in the latter part of June, to bring the 1,450 teachers and their attendants to Boston, and to return them to Cuba when the visit is ended.

I do not think you are in any danger of overestimating the importance of the thing you are about to do. I visited many schools when in Cuba this spring, and I was much impressed by the brightness and intelligence of the children who were crowding in for instruction under the new regime, and of the native teachers who had been already employed. It is great, raw material for education, and nothing can be clearer than our duty at least to start the process along right lines. It would have been a poor boon to Cuba to drive the Spaniards out and leave her to care for herself, with two-thirds of her people unable to read and write, and wholly ignorant of the art of self-government, and without any political system under which the peaceable, home-loving majority of her people could find an opportunity to take part in government. Instead of that, we are trying to give the Cuban people just as fair and favorable a start in governing themselves as possible, and to help them avoid the conditions which have subjected Hayti, San Domingo, and the Central American republics to continuous revolution and disorder. The Cubans

are behaving admirably, and I have great hopes for them. The great difficulty with which they have to contend is that they have had no experience in anything except Spanish customs and Spanish methods which have grown up for centuries under a system opposed to general education and to self-government. To succeed in their experiment the Cubans must necessarily acquire some new ideas and new methods. That is a very hard thing for a whole people to do, and it cannot be done by having outsiders preach at them. It is something that they have to do themselves. The best that anybody else can do is to afford them opportunity of seeing and studying new methods. The greatest opportunity that has yet been suggested for the accomplishment of this necessary work is the bringing of these 1,450 teachers to Massachusetts to see for themselves the University of Harvard and the institutions and life of the State, and to explain to them what they see and its bearing upon their work for the education of their own countrymen. I believe that this body of teachers going back, after their experience here, and scattering into every municipality in Cuba, will carry back more of saving grace for peaceful and prosperous Cuba than the whole power of the Government could accomplish in any other way.

Faithfully yours,

ELIHU ROOT,
Secretary of War.

All persons who wish to show this interest and to take part in this effort to serve the Cuban people are invited to send their subscriptions to

CHARLES FRANCIS ADAMS, 2D,
Treasurer of Harvard College,
50 State St., Boston.

12 MAY, 1900

CAMBRIDGE, MASS., 10 Nov. 1900.

PRESIDENT ELIOT : —

DEAR SIR, — The total receipts for the Cuban Teachers' fund are thus reported by Mr. Fowler this morning. Subscriptions \$69,785.33 ; Kindergarten gift, \$500 ; Sloyd gift, \$400 ; Blackmar, on account of programmes, \$460 ; total, \$71,145.33.

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	<u>\$71,145.33</u>	<u>\$71.145.33</u>
Cuban Salaries paid	\$60,257.70	
Safety deposits	485.50	

Respectfully,

CHARLES F. MASON,
Bursar.

CUBAN SUMMER SCHOOL.

OFFICERS OF INSTRUCTION AND MANAGEMENT.

IN CHARGE OF MATTERS RELATING TO INSTRUCTION IN THE
PRESIDENT'S ABSENCE.

WILLIAM COOLIDGE LANE.

TEACHERS.

ENGLISH.

Director of the English Classes.

ELIJAH CLARENCE HILLS.

Men Teachers.

EDWARD LARRABEE ADAMS.
ALVIN FREEMAN BAILEY, Jr.
CLEMENT LINCOLN BOUVÉ.
JAMES FRANKLIN BRIGGS.
ANTONIO ALFREDO CAPOTOSTO.
RALPH WALDO GIFFORD.
ERNEST ROY GREENE.
FREDERIC CARLETON GULICK.
WILLIAM SOLOMON HAYES.
JOHN PETER HINCHEY.
FLETCHER BEACH HOLMES.
MELAIM LENOIR KING.
JOHN ASHBY LESTER.
FREDERIC WILLIAM MORRISON.
GEORGE WASHINGTON PIERCE.
JAMES DWIGHT PRINDLE.
WILLIAM HOWELL REED, Jr.
SAMUEL STICKNEY.
HERBERT CAHOONE THORNDIKE.
ARTHUR FISHER WHITTEM.

Women Teachers.

Mrs. CAROLINE HILLS ABBOTT.
IDA PRESCOTT CLOUGH.
JOSEPHINE MARGARET CURRY.
JESSIE MAY DOUGLASS.
ANNETTE FISKE.
MARGUERITE FISKE.
ELIZABETH FORBES.
CARRIE ANNA HARPER.
GRACE ANNA HILL.
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Programa de instrucciones

	8.30-9.15	9.30-10.15	10.30-11.15	11.30-12
9 nes	Inglés Sever Hall University Hall	Geografía Sanders Theatre		Inglés Sever Hall University Hall
10 tes	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 1 á 190	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 381 á 1836
11 oles	Inglés Sever Hall University Hall	Historia de las Colonias Españolas Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 191 á 380	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 1087 á 1999
12 ves	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 381 á 1086	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 1 á 190
13 nes	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 1087 á 1999	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 191 á 380
14 ado	Inglés Sever Hall University Hall	Historia de las Colonias Españolas Sanders Theatre		Inglés Sever Hall University Hall

de absoluta necesidad el reunirse en los lugares
ida para las excursiones á la hora designada. Los
saldrán exectamente á la hora señalada en el
ario ó tabla de horas.
caso de lluvia no habrá excursiones.

Si se cambiase ó transfiri
colocará á la hora del almue
colocado en el Memorial y R
Se suplica a los maestros
de salida para las excursio
compañías de á cinco en to

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TRAVIS HOWARD WHITNEY, Head
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CUBAN SUMMER

Programa de instrucciones

	8.30-9.15	9.30-10.15	10.30-11.15	11.30-12
9 nes	Inglés Sever Hall University Hall	Geografía Sanders Theatre		Inglés Sever Hall University Hall
10 tes	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 1 á 190	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 1087 á 1836
11 oles	Inglés Sever Hall University Hall	Historia de las Colonias Españolas Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 191 á 380	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 1087 á 1999
12 res	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 381 á 1086	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 1 á 190
13 nes	Inglés Sever Hall University Hall	Geografía Sanders Theatre	Kindergarten Lower Mass. Maestras solamente Núm. 1087 á 1999	Inglés Sever Hall University Hall Kindergarten Lower Mass. Maestras solamente Núm. 191 á 380
14 ado	Inglés Sever Hall University Hall	Historia de las Colonias Españolas Sanders Theatre		Inglés Sever Hall University Hall

de absoluta necesidad el reunirse en los lugares
designados para las excursiones á la hora designada. Los
participantes saldrán exactamente á la hora señalada en el
programa ó tabla de horas.
En caso de lluvia no habrá excursiones.

Si se cambiase ó transfiriese el programa se
colocará á la hora del almuerzo en el Memorial y Foyer.
Se suplica a los maestros que se presenten a la hora
de salida para las excursiones en compañías de á cinco en total.

The other Funds are invested as a whole. The general investments are stated in detail on pages 42, 43, and 44 of this report. The usual summary of them, and of their income, is as follows :—

Investments.	Principal, Aug. 1, 1899.	Principal, July 31, 1900.	Income.
Notes, Mortgages, &c.,	\$813,500.00	\$913,000.00	\$41,995.65
United States Bonds,	826,476.96	467,690.80	17,610.55
Railroad Bonds,	2,867,132.70	3,676,903.60	134,999.17
Sundry Bonds,	1,299,712.31	1,412,182.60	62,631.40
Railroad Stocks,	354,071.80	513,381.57	21,693.17
Manufacturing Stocks,	37,322.29	39,022.29	6,220.00
Building Trusts Stocks,	170,000.00	330,000.00	6,690.80
Real Estate,	2,501,752.65	2,552,318.30	138,727.85
Brattle Street Reversion (1918), . .	1,015.00	1,015.00	
Advances to Bussey Trust ,	29,835.51	29,785.51	1,193.37
“ “ Calvin & Lucy Ellis Real Estate,		166.32	
“ “ Sch. of Veterinary Med., . . .	24,406.01	24,406.01	1,220.30
“ “ Observatory,	182.28		9.11
“ “ Peabody Museum of Am. Archaeology and Ethnology,	523.20	639.01	23.75
“ “ Botanic Department,	13,289.18	15,549.39	664.46
“ “ Gray Herbarium ,	1,081.18	25.41	54.06
“ “ University Lands,	30,000.00		529.17
“ “ Dining Hall Association,	15,501.50	14,001.50	930.09
“ “ Randall Hall “		22,875.71	
“ “ Sundry Accounts,	2,431.85	1,076.25	
Baring Brothers & Company ,	2,274.31	2,488.25	71.39
Term Bills due in October,	206,441.71	229,150.09	
“ “ overdue,	8,554.31	8,823.89	
Cash in Suffolk National Bank, . . .	11,427.35	9,526.65	7.01
“ National Union Bank,	453,820.35	157,002.63	4,735.30
“ Old Boston National Bank, . . .		69,748.60	
“ hands of Bursar,	19,855.74	16,980.44	
Totals of general investments, . . .	\$9,690,608.19	\$10,507,759.82	\$440,006.50
Totals of special investments, . . .	2,076,850.37	2,106,688.37	101,564.04
Amounts,	\$11,767,458.56	\$12,614,448.19	\$541,570.54

The sums of \$23,661.94 and \$1,135.28 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, towards sinking the whole of these premiums at the maturity of the bonds.

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TREASURER'S STATEMENT.



1900.



TREASURER'S STATEMENT.

TO THE BOARD OF OVERSEERS OF HARVARD COLLEGE:—

The Treasurer of the College submits the Annual Statement of the financial affairs of the University, for the year ending July 31, 1900, in the usual form.

The Funds separately invested, with the income thereof, are as follows:—

	UNIVERSITY.	Principal. July 31, 1900.	Income.
George B. Dorr Fund,			
University Houses and Lands,		\$115,966.56	\$5,288.09
Francis E. Parker Fund,			
University Houses and Lands,		118,817.44	5,190.05
John C. Gray Fund,			
University Houses and Lands,		25,000.00	1,140.00
Joseph Lee Fund,			
University Houses and Lands,		10,000.00	456.00
William F. Weld Fund (part),			
University Houses and Lands,		92,438.45	2,639.33
Insurance and Guaranty Fund,			
University Houses and Lands,		129,940.39	6,458.74
Stock Account,			
University Houses and Lands,			1,138.68
John Cowdin Fund,			
Real Estate, Charlestown St., Boston,		22,000.00	1,915.91
Walter Hastings Fund,			
Real Estate, Sacramento St., Cambridge,		20,000.00	1,369.58
COLLEGE.			
Stoughton Scholarship (part),			
Real Estate in Dorchester,		1,294.30	
Pennoyer Scholarships (part),			
Pennoyer Annuity in England,		4,444.44	142.65
Jonathan Phillips' Gift,			
\$10,000 City of Boston 3½'s,		10,000.00	350.00
Samuel Ward's Gift,			
Ward's (Bumkin) Island, Boston Harbor,		1.00	
Scholarships of the Class of 1856,			
\$10,000 Frem., Elkhorn & Mo. Valley R.R. 6's (sold during year),			341.67
Scholarship of the Class of 1883,			
\$5,000 Brookline Gas Light Co. Gen'l M. 5's,		5,000.00	
Professorship of Hygiene,			
Policy of Mass. Hospital Life Insurance Co.,		5,000.00	200.00
Amounts carried forward,		\$554,902.58	\$36,630.70

Amounts brought forward, \$554,902.58 \$26,630.70

LIBRARY.

Ichabod Tucker Fund (part),
Policy of Mass. Hospital Life Insurance Co., . . . 5,000.00 200.00

LAW SCHOOL.

James Barr Ames Prize Fund (part),
Personal Note, 2,900.00

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY.

Peabody Professor Fund,
\$54,000 Kansas & Missouri R. R. 1st M. 5's (part), . 19,218.64 1,038.84
Peabody Collection Fund,
\$54,000 Kansas & Missouri R. R. 1st M. 5's (part), . 19,218.64 1,038.84
Peabody Building Fund,
\$54,000 Kansas & Missouri R. R. 1st M. 5's (part), . 11,512.72 622.32
**Thaw Fund (\$8.48 deducted from income for sinking
premium),**
\$20,000 Girard Point Storage Co. 1st M. 3½'s, . . . 20,339.02 691.52

SPECIAL FUNDS.

Bussey Trust,
Real Estate, 392,710.18 26,768.03
Robert Troup Paine Fund (accumulating),
\$43,000 Massachusetts 3½'s (\$165.60 deducted from
income for sinking premium), 45,287.78 1,339.40
Fund of the Class of 1834,
Policy of Mass. Hospital Life Insurance Co., . . . 1,000.00 40.00
Fund of the Class of 1844,
Policy of Mass. Hospital Life Insurance Co., . . . 6,500.00 260.00
Fund of the Class of 1853,
Policy of Mass. Hospital Life Insurance Co., . . . 3,725.00 149.00
Charles L. Hancock Bequest (part),
Real Estate in Chelsea, 700.00
Henry C. Warren Fund (part),
\$9,000 City of Boston 4's (sold during year), . . 269.75
200 shares West End Street Railway preferred, . . 22,400.00 800.00
64 " Boston Elevated Railway, 10,176.00 168.00
39 " First National Bank, 8,073.00 312.00
84 " Boston & Albany R. R., 21,252.00 1,008.00
Calvin Ellis' Fund (part),
\$5,000 Kansas & Missouri R. R. 1st M. 5's (sold
during year), 233.34
120 shares Old Colony R. R., 24,360.00 840.00
30 " Boston & Providence R. R. (sold during
year), 75.00
156 " New York, New Haven & Hartford R. R., . . 33,696.00 1,248.00
150 " Boston & Albany R. R., 38,550.00 1,300.00

Amounts carried forward, \$1,241,521.56 \$64,932.74

Amounts brought forward,	\$1,241,521.56	\$64,932.74
50 shares Boston & Lowell R. R.,	12,000.00	400.00
91 " Boston & Maine R. R. preferred, . .	15,925.00	546.00
40 " Vermont & Massachusetts R. R. (sold during year),		120.00
200 " Chicago, Burl. & Quincy R. R., . . .	27,400.00	1,200.00
8 " Old Boston National Bank,	937.00	36.00
17 " Merchants National Bank,	2,813.50	102.00
15 " Boston Real Estate Trust (sold during year),		196.88
20 shares Massachusetts Mutual Fire Ins. Co. (sold during year),		40.00
Real estate in Boston,	26,400.00	
Calvin and Lucy Ellis Aid Fund, Real Estate in Boston,	60,400.00	
Price Greenleaf Fund. (\$961.20 deducted from income for sinking premiums.) The total amount of this Fund is \$719,291.31, which is invested as follows:—		
\$12,200 Rutland R. R. 6's,	12,606.66	569.38
3,000 Chicago, Burl. & Quincy R. R. 4's, . . .	2,880.00	120.00
3,000 Chicago, Burl. & Northern R. R. 5's (paid during year),		75.00
290 shares Northern R. R. (N. H.),	29,290.00	1,740.00
800 " Rutland " preferred,	28,000.00	2,400.00
317 " Boston & Maine R. R.,	48,746.21	2,219.00
360 " Boston & Lowell "	46,800.00	2,880.00
237 " Fitchburg R. R., preferred,	22,306.27	948.00
355 " Old Colony "	63,190.00	2,485.00
147 " Chicago, Burl. & Quincy R. R., . . .	18,818.20	877.38
20 " N. Y. Central & Hudson River R. R., .	2,260.00	95.00
52 " West End Street Railway, preferred,	4,305.56	208.00
34 " Central Vermont R'y Co.,	428.72	
15 " Boston Real Estate Trust,	20,703.75	478.12
100 " Paddock Bldg. Trust (55% paid in),	5,500.00	
\$34,000 New York Central & Hudson River R. R. (Michigan Central Collateral) 3½'s, . . .	28,412.10	1,190.00
43,500 Central Vermont Ry. Co. 1st M. 4's, . .	37,845.00	1,740.00
50,000 Union Pacific R. R. 1st M. & L. G. 4's, .	44,625.00	2,000.00
2,000 Chicago, Burl. & Quincy R. R. 3½'s, . .	2,000.00	70.00
27,000 Burl. & Mo. R. R. R. in Neb. non ex. 6's, .	28,850.11	1,208.86
50,000 Metropolitan Tel. & Tel. Co. 1st M. 5's, .	49,750.00	2,500.00
25,000 New England " " " 6's,	25,445.31	1,425.78
50,000 Chic. Junc. R'y's & Union Stock Yards 5's,	47,000.00	2,500.00
70,000 Broadway Realty Co. Purchase money 1st M. 5's,	74,881.56	3,315.78
70,000 American Bell Telephone Co. 4's, . . .	71,031.60	2,671.06
Cash in New England Trust Co.,	3,615.26	274.17
Totals,	\$2,106,688.37	\$101,564.04

The other Funds are invested as a whole. The general investments are stated in detail on pages 42, 43, and 44 of this report. The usual summary of them, and of their income, is as follows :—

Investments.	Principal, Aug. 1, 1899.	Principal, July 31, 1900.	Income.
Notes, Mortgages, &c.,	\$813,500.00	\$913,000.00	\$41,995.65
United States Bonds,	826,476.96	467,690.80	17,610.55
Railroad Bonds,	2,867,132.70	3,676,903.60	134,999.17
Sundry Bonds,	1,299,712.31	1,412,182.60	62,631.40
Railroad Stocks,	354,071.80	513,381.57	21,693.17
Manufacturing Stocks,	37,322.29	39,022.29	6,220.00
Building Trusts Stocks,	170,000.00	330,000.00	6,690.80
Real Estate,	2,501,752.65	2,552,318.30	138,727.85
Brattle Street Reversion (1918), . .	1,015.00	1,015.00	
Advances to Bussey Trust ,	29,835.51	29,785.51	1,193.37
“ “ Calvin & Lucy Ellis			
Real Estate,		166.32	
“ “ Sch. of Veterinary Med., . .	24,406.01	24,406.01	1,220.30
“ “ Observatory,	182.28		9.11
“ “ Peabody Museum of			
Am. Archaeology and			
Ethnology,	523.20	639.01	23.75
“ “ Botanic Department, . .	13,289.18	15,549.39	664.46
“ “ Gray Herbarium , . . .	1,081.18	25.41	54.06
“ “ University Lands, . . .	30,000.00		529.17
“ “ Dining Hall Association, .	15,501.50	14,001.50	930.09
“ “ Randall Hall “		22,875.71	
“ “ Sundry Accounts, . . .	2,431.85	1,076.25	
Baring Brothers & Company ,	2,274.31	2,488.25	71.29
Term Bills due in October ,	206,441.71	229,150.09	
“ “ overdue,	8,554.31	8,823.89	
Cash in Suffolk National Bank , . . .	11,427.35	9,526.65	7.01
“ National Union Bank, . . .	453,820.35	157,002.63	4,735.30
“ Old Boston National Bank, .		69,748.60	
“ hands of Bursar,	19,855.74	16,980.44	
Totals of general investments , . .	\$9,690,608.19	\$10,507,759.82	\$440,006.50
Totals of special investments , . .	2,076,850.37	2,106,688.37	101,564.04
Amounts ,	\$11,767,458.56	\$12,614,448.19	\$541,570.54

The sums of \$23,661.94 and \$1,135.28 have been deducted from the income of all bonds bought at a premium and held respectively as general and special investments, and have been applied, as the fair yearly repayment from income, towards sinking the whole of these premiums at the maturity of the bonds.

The net income of the general investments has been divided at the rate of $4\frac{58}{100}$ per cent. among the Funds to which they belong, after allowing special rates to certain temporary Funds and balances. The fraction, which was \$169.16, has been placed as usual to the credit of the University account.

The rate of income compared with that for 1898-99, shows a decrease of three one hundredths of one per cent.

The following table shows the income available for the departments dependent upon the College proper, and the expenditures in those departments; the income and the expenditure for the Lawrence Scientific School and the College being combined in the College account:—

Interest on Funds for

University Salaries and Expenses,	\$71,319.41
Library Salaries and Expenses (not books), . . .	23,658.88
College Salaries and Expenses,	51,879.90
Gymnasium, and repairs on College buildings, . .	none.

College Term Bills, 467,747.89

Sundry receipts, as follows:—

Gifts for Salaries and Expenses,	\$2,600.00		
Use of buildings (not University Houses and Lands),	2,772.50		
Laboratory and other fees, &c.,	46,900.11		
Sales of catalogues, pamphlets, &c.,	3,780.65		
Taxes, with costs and interest, repaid by City of Cambridge,	3,641.82		
Repayments of loans to scientific students,	141.46	59,836.54	\$674,442.12

Expended for

University Salaries and Expenses,	\$92,969.60		
Library Salaries and Expenses (not books),	44,695.47		
College Expenses,	128,396.36		
College Salaries, for instruction,	359,784.24		
Gymnasium Expenses,	11,908.05		
Repairs, insurance and cleaning on College buildings not valued in Treasurer's books,	69,150.95		
Deficit in the School of Veterinary Medicine for 1899- 1900, assumed by the University,	4,206.96	\$711,111.68	
Balance, showing the deficit for the year, which has been charged to Stock Account, and Insurance and Guaranty Fund,			\$36,669.51

The University, College, Lawrence Scientific School, and Library accounts, taken together, show a deficit of \$36,669.51. Permanent improvements to the buildings in Cambridge used for College purposes have been charged to income to the

amount of about \$25,000. The year's deficit of the Veterinary School, amounting to \$4,206.96, has also been taken from the unrestricted income of the University. For all these purposes it has been necessary to use all the principal of the Stock Account, and \$11,698.35 of the principal of the Insurance and Guaranty Fund. In 1898-99 there was a similar deficit of \$41,827.94.

The Divinity School has a deficit of \$642.84. In 1898-99 there was a surplus of \$214.19.

The Law School has a surplus of \$32,870.16. In 1898-99 there was a surplus of \$27,194.11.

The Medical School, using the income of the Ellis bequests, has a surplus of \$1,306.84. In 1898-99 the deficit was \$18,275.06.

The Dental School has a surplus of \$4,885.70. In 1898-99 the surplus was \$5,797.62.

The Museum of Comparative Zoölogy used the income of its restricted Funds as required by the conditions of gift. It has a surplus of unrestricted income of \$6,098.81. In 1898-99 the surplus was \$8,553.68.

The General Account of the Observatory has a surplus of \$2,431.64. In 1898-99 there was a deficit of \$1,373.84. The income of the Boyden Fund has been used for work in Peru, and the usual large gifts from Mrs. Draper have been used for the special research work of the Draper Memorial.

The Bussey Institution has a surplus of \$6,794.85. In 1898-99 there was a surplus of \$2,432.31.

The Veterinary School has a deficit of \$4,206.96. In 1898-99 the deficit was \$3,521.01.

The Peabody Museum has a deficit of \$115.81. In 1898-99 the deficit was \$1,252.66.

Gifts have been received during the year as follows:—

GIFTS TO FORM NEW FUNDS OR INCREASE OLD ONES.

From the estate of Miss Elizabeth R. Swift, \$1,000 additional, on account of her bequest of \$3,000 for establishing the Swift Scholarship in Harvard College.

From the estate of Robert Charles Billings, \$85,000, on account of his unrestricted bequest of \$100,000.

From the anonymous giver, who last year gave the fund for the Professorship of Hygiene, \$67.50, to be added to the fund.

From the estate of George E. Ellis, \$195 additional, on account of his residuary bequest to constitute a fund to be known as the Harvard Ellis Fund, in memory of his son, John Harvard Ellis, of the Class of 1862.

From the estate of Henry L. Pierce, \$15,000 additional, on account of his unrestricted residuary bequest.

From the estate of Sidney Shepard, \$10,000, "to establish a permanent fund to be known as the 'Ralph H. Shepard Fund,' the income of which is to be expended at the discretion of the Committee on the Phillips Brooks House in such ways as may in their judgment best further the purposes of piety, charity and such hospitality as is consistent with the high purposes of the Phillips Brooks House, it being understood, however, that nothing from this fund shall be used for repairs, for janitor's services, or for heating and lighting."

For the Asa Gray Memorial Fund, from

Edwin H. Abbot	\$520
Francis Bartlett	1,000
Augustus P. Loring	50
Burt G. Wilder	5
	<hr/>
	\$1,575

From Mrs. Charles F. Washburn, \$2,000, for establishing, in memory of her son, Philip Washburn, of the Class of 1882, a prize for the best thesis presented by a successful candidate for honors in history.

For the Henry Lee Professorship of history, or of some other branch of social science, from

Joseph Lee	\$25,000
Mrs. Elizabeth P. Shattuck	25,000
	<hr/>
	\$50,000

From the Secretary of the Class of 1881, \$45, to be added to the Class Subscription Fund.

From the estate of Alexander Wheelock Thayer, \$7,758.30, as the final payment on account of his bequest "for assisting

worthy and needy young men at the said Harvard University in their efforts to obtain an education."

From Albert C. Burrage, \$5,000, "to found a scholarship to be known as the Scholarship of the Class of 1883."

From David P. Kimball, \$1,000, to be added to the endowment of the Scholarship of the Class of 1856, which was founded by him.

From the trustees under the will of William Hilton, \$5,053.67 additional, on account of his bequest for establishing the William Hilton Scholarship Fund.

From an anonymous giver, \$500, to be added to the Herbarium Fund.

From the estate of Mrs. Susan B. Lyman, \$1,809.78, the balance of her bequest of \$5,000, with accrued interest thereon, after deducting the New York collateral inheritance tax of \$250. The income of this bequest is "to be distributed under the direction of the President of the College for the benefit of poor but intelligent and meritorious students of the College."

From the estate of Calvin Ellis, real estate in Boston, assessed at \$26,400, on account of his residuary bequest, the income of which is to be used towards the increase of the salaries of certain professors in the Medical School to \$5,000 a year, and for other purposes in the Department of Medicine.

Through the Massachusetts Hospital Life Insurance Company, \$50,942.47, the amount (\$50,000) deposited by Miss Lucy Ellis, with accrued interest, "to be held and administered by said President and Fellows as part of the Residue and remainder bequeathed as a permanent Fund to said President and Fellows by the last will and testament of her brother Calvin Ellis."

From the estate of Miss Lucy Ellis, real estate in Boston assessed at \$60,400, on account of her residuary bequest, the income of which is primarily to be applied towards the payment of certain expenses of such descendants of David Ellis and Beulah Newell, formerly of Dedham, and of John Ellis and Hannah Ellis, formerly of Walpole, as may be students in Harvard College.

For the School of Comparative Medicine, from

		Amount brought forward . .	\$1,235
R. L. Agassiz	\$10	Laurence Minot	200
Mrs. Katherine B. Bement . .	25	S. W. Rodman	10
George G. Crocker	1,000	H. B. Stearns	25
Amor Hollingsworth	200	Ralph B. Williams	500
Amount carried forward . .	\$1,235		\$1,970

Through the Massachusetts Hospital Life Insurance Company \$3,029.59, the amount (\$3,000) deposited in 1889 by Benjamin E. Cotting, with accrued interest, for establishing the "Cotting Gift," the income thereof to be used for assisting students in the Medical School.

From Gardiner M. Lane, \$60 additional, for the Francis James Child Memorial Fund.

From Charles Hamilton Wilder and his sister, Miss Florence Elizabeth Wilder, \$15,000, their first annual payment towards a fund of \$40,000, which they have offered to give for the purpose of establishing a professorship in the Medical School "to be known forever as the Charles Wilder Chair"; the department of medicine which this chair shall represent to be named from time to time by the Corporation.

For the Arnold Arboretum Fund, from

H. H. Hunnewell	\$5,000
Henry G. Russell	5,000
John E. Thayer	1,000
Mrs. C. F. Sprague	5,000
	<u>\$16,000</u>

The total amount of these gifts for capital account is \$359,806.31, as is also stated on page 38 of this report.

GIFTS FOR IMMEDIATE USE.

From Mrs. C. M. Barnard, \$600, her seventeenth yearly payment for the Warren H. Cudworth Scholarships.

For the instruction and maintenance of certain Cuban Teachers during a course at the Summer School of 1900, from

C. A.	\$25.00	Amount brought forward .	\$551.00
In memory of J. H. A. . .	25.00	Gordon Abbott	50.00
Edwin H. Abbot	500.00	Isaac Adler	5.00
Ernest Hamlen Abbott . .	1.00	Mrs. Louis Agassiz	10.00
Amount carried forward .	\$551.00	Amount carried forward .	\$616.00

Amount brought forward .	\$616.00	Amount brought forward .	\$3,909.00
Frederick B. Allen	10.00	Sara Ware Bassett	2.00
Gideon Allen, Jr.	15.00	Mrs. Emma W. Batcheller	25.00
G. W. Allen	5.00	Edward C. Bates	10.00
L. G. R. Allen	10.00	Walter C. Baylies	25.00
Miss M. Josephine Allen	10.00	Mr. and Mrs. Joseph H. Beale, Jr.	25.00
William L. Allen	10.00	J. G. Beals	25.00
Francis Almy	5.00	E. Burt Beckwith	1.00
American Book Co.	500.00	E. Pierson Beebe	100.00
Mrs. Frederick L. Ames	100.00	Max Benshimol	5.00
Mr. and Mrs. James Barr Ames	800.00	William Sturgis Bigelow	500.00
Miss Mary S. Ames	100.00	Mr. and Mrs. Morris A. Black	10.00
Augustine H. Amory	5.00	F. A. Blackmer	360.00
C. W. Amory	100.00	Mrs. Arthur W. Blake	50.00
Anonymous	5.00	George F. Blake	100.00
Anonymous	400.00	Mr. and Mrs. S. Parkman Blake	50.00
Anonymous	5.00	William P. Blake	25.00
Anonymous	25.00	Sarah H. Blanchard	15.00
Anti-imperialist	500.00	William Bliss	200.00
George E. Armstrong	100.00	W. E. Blodgett	2.00
Edmund K. Arnold	5.00	Roger S. Boardman	2.00
George F. Arnold	10.00	Bond & Goodwin	50.00
Mrs. W. H. Aspinwall	10.00	Henry F. Bond	5.00
Edward H. Atherton	2.00	Miss Mabel H. Bond	1.00
Frederic Atherton	25.00	Ward Bonsall	15.00
Percy L. Atherton	10.00	F. Boott	10.00
Edwin F. Atkins	500.00	Mrs. John Jay Borland	100.00
James B. Ayer	25.00	Boston Teachers	302.00
A. B.	100.00	Alfred Bowditch	25.00
T. G. B.	10.00	Charles P. Bowditch	100.00
R. M. B.	10.00	Edward Bowditch	10.00
S. W. B.	1.00	H. P. Bowditch	20.00
Mrs. James A. Bailey	10.00	Mrs. Robert S. Boyd	5.00
James A. Bailey, Jr.	10.00	Roland W. Boyden	10.00
Thomas Tileston Baldwin	5.00	W. L. Boyden	5.00
Wilder D. Bancroft	25.00	Mrs. and Mrs. George G. Bradford	10.00
Wm. A. and Mary Bancroft	100.00	J. Bradlee	10.00
Elisha D. Bangs	50.00	Mr. and Mrs. Louis D. Brandeis	50.00
James M. Barnard	10.00	J. D. Brannan	25.00
Mr. and Mrs. James M. Barnard	50.00	Eliza Brewer and C. M. Brewer	100.00
Charles B. Barnes, Jr.	5.00	Fannie K. Brewer	10.00
Mabel F. W. Barney	10.00	William Brewster	100.00
Alex. G. Barret	10.00	William T. Brewster	10.00
R. L. Barrett	25.00		
Clarence W. Barron	10.00		
Chase & Barstow	50.00		
Henry Bartlett	10.00		
Amount carried forward .	\$3,909.00	Amount carried forward .	\$6,414.00

ount brought forward, \$6,414.00	Amount brought forward, \$9,285.50
irkpatrick Brice 25.00	Cash 5.00
R. Briggs 25.00	Cash 50.00
rd Brigham 25.00	Cash 5.00
Martin Brimmer 200.00	Martha G. Cate 5.00
C. Brinsmade 5.00	Martin L. Cate 5.00
nd Mrs. John Graham	Edgar R. Champlin 25.00
oks 10.00	Gilbert E. Chandler 10.00
ooks 100.00	Henry B. Chapin 15.00
rd D. Brown 1.00	H. D. Chapin 50.00
ce Brown 5.00	Fenner A. Chase 2.00
rd I. Browne 100.00	Charles Chauncey 10.00
Browne, Jr. 5.00	Mrs. David W. Cheever 10.00
Brush 10.00	W. L. Chenery 5.00
Bryant 10.00	Mrs. Ednah D. Cheney 10.00
is Bullard 15.00	Charles F. Choate 100.00
en Bullard 50.00	E. W. Clark 100.00
lore Bullard 10.00	Leonard B. Clark 5.00
William S. Bullard 100.00	A member of the Class of '64 1,000.00
nd Mrs. George E.	" " '78 5.00
gess 25.00	" " '87 10.00
Burr 100.00	A graduate " '98 5.00
r P. Butler 5.00	" " '96 5.00
. 10.00	" " '98 25.00
. 100.00	" " '98 5.00
C. and E. M. C. 12.00	" " '99 10.00
C. 20.00	F. R. Clow 1.00
Cabot 300.00	John D. Cobb 10.00
es M. Cabot 50.00	Cobb, Aldrich & Co. 150.00
H. Cabot 10.00	Cobb, Bates, Yerxa Co. 100.00
nd Mrs. J. Elliot Cabot 100.00	Alexander Cochrane 50.00
o Cabot 10.00	Edmund D. Codman 50.00
er C. Cabot 100.00	Edward W. Codman 25.00
nittee, First Parish,	J. S. Codman 5.00
nbridge 114.00	Rufus Coffin 10.00
ridge Soc. Dram. Club,	Winthrop Coffin 25.00
lies First Church Unit.,	Francis Cogswell 25.00
other Churches, and	M. R. Cole 25.00
Cantabrigia Club 505.50	William C. Collar 10.00
pe F. Canfield 20.00	Frank W. Cone 10.00
brigia Club 31.00	Conrad & Co. 25.00
ir Astor Carey 500.00	E. S. Converse 500.00
Carleton 5.00	Frederick S. Converse 5.00
Samuel Carr 25.00	David H. Coolidge 25.00
s C. Carter 100.00	Ellen W. Coolidge 25.00
rd B. Carter 10.00	Mr. and Mrs. J. R. Coolidge, Jr. 50.00
n Cary 8.00	J. S. Coonley 5.00
. 10.00	J. H. Corcoran & Co. 25.00
. 5.00	S. F. Coues 10.00
ount carried forward, \$9,285.50	Amount carried forward, \$11,928.50

Amount brought forward, \$11,928.50	
J. M. Crafts	100.00
George W. Cram	5.00
W. Murray Crane	500.00
Sumner Crosby	50.00
Frederic Cunningham	20.00
Henry W. Cunningham	10.00
Charles P. Curtis	100.00
Mrs. G. S. Curtis	200.00
Arthur P. Cushing	5.00
Grafton Delany Cushing	10.00
Elbridge G. Cutler	10.00
S. Newton Cutler	10.00
C. A. Cutter	10.00
E. W. D.	50.00
F. A. D.	100.00
L. S. D.	10.00
S. C. D.	5.00
John Adams Chap., D.A.R.	20.00
Gen. Joseph Badger Chap., D.A.R.	5.00
Boston Tea Party Chap., D.A.R.	10.00
Bunker Hill Chap., D.A.R.	10.00
Lydia Cobb Chap., D.A.R.	15.00
Margaret Corbin Chap., D.A.R.	5.00
Mary Draper Chap., D.A.R.	15.00
Fort Mass. Chap., D.A.R.	10.00
Framingham Chap., D.A.R.	10.00
Hannah Goddard Chap., D.A.R.	16.00
Lucy Jackson Chap., D.A.R.	15.00
Col. Thomas Lothrop Chap., D.A.R.	46.00
Old Colony Chap., D.A.R.	54.25
Old South Chap., D.A.R.	10.00
Quequechan Chap., D.A.R.	5.00
Paul Revere Chap., D.A.R.	10.00
Molly Varnum Chap., D.A.R.	155.00
Hannah Winthrop Chap., D.A.R.	10.00
Isaac Gardner Chap., D.R.	10.00
Mass. State Society, D.R.	50.00
L. S. Dabney	50.00
C. H. Dalton	100.00
Mrs. C. H. Dalton	100.00
Edith L. Dana	27.00
George E. Dana	25.00

Amount carried forward, \$13,906.75

Amount brought forward, \$13,906.75	
Mr. and Mrs. R. H. Dana	15.00
Allen Danforth	50.00
Danvers Women's Assoc'n	26.00
F. H. Davenport	25.00
Mabel Davis	5.00
James Dean	2.00
A. E. Denison	5.00
Stephen Hasket Derby	5.00
A. L. Devens	10.00
George W. Dickerman	10.00
Alex. Dickinson	5.00
David T. Dickinson	10.00
Oliver Ditson Co.	50.00
C. Dodge	50.00
Edward S. Dodge	25.00
Charles F. Dole	5.00
Eben S. Draper	100.00
Charles Davis Drew	9.96
Garrett Droppers	5.00
Dr. and Mrs. Carroll Dun- ham	25.00
E. J. Dunning	25.00
Francis Bird Dutton	10.00
Edmund Dwight	300.00
B. E.	20.00
Percival J. Eaton	10.00
W. S. Eaton	100.00
Miss S. L. Edwards	10.00
Mrs. Charles Eliot	10.00
Mr. and Mrs. Charles W. Eliot	250.00
Ellis & Melledge	50.00
E. W. Emerson	5.00
Nathaniel W. Emerson	5.00
R. W. Emmons, 2d	25.00
Dr. and Mrs. Harold C. Ernst	10.00
Estabrook & Co.	500.00
Harold K. Estabrook	5.00
F. I. Eustis	25.00
W. E. C. Eustis	500.00
Mrs. Glendower Evans	50.00
William A. Everett	10.00
L. C. F.	5.00
Mrs. Edwin S. Farmer	10.00
William Farnsworth	25.00
Mrs. S. W. Farwell	5.00
Edward P. Fay	5.00
Mrs. H. H. Fay	50.00
J. S. Fay, Jr.	25.00

Amount carried forward, \$16,389.71

Amount brought forward, \$16,389.71	
E. C. Felton	50.00
Mrs. James T. Fields	25.00
William Filene & Sons	100.00
Frederick P. Fish	100.00
Laura Fisher (thro')	10.00
Lyman B. Fisk	10.00
Mrs. J. N. Fiske	30.00
Robert F. Fiske	10.00
Augustus Flagg	50.00
Miss Amy Folsom	25.00
Charles F. Folsom	50.00
Henry Wilder Foote	40.00
Walter Forcheimer	10.00
H. Waldo Forster	25.00
Leon F. Foss	5.00
Caroline S. Freeman	10.00
Fresh Pond Ice Co.	50.00
A friend	10.00
A friend	100.00
A friend	5.00
A friend	20.00
A friend	2.00
A friend	10.00
A friend	200.00
A friend in Cambridge . . .	2.00
Two Cambridge friends . . .	10.00
E. Frothingham	10.00
Paul Revere Frothingham . .	25.00
William I. Frothingham . . .	5.00
Robert O. Fuller	100.00
Alexis E. Frye	1,000.00
Homer Gage	25.00
Miss M. C. Gage	5.00
Walter B. Gage	5.00
E. Galland	10.00
W. C. Gannett	5.00
J. H. Gardiner	10.00
Robert H. Gardiner	25.00
G. M. Garland	5.00
J. E. Garland	10.00
A. C. Garrett	5.00
Lloyd McK. Garrison	50.00
Lewis E. Gates	10.00
Ernest L. Gay	10.00
Warren F. Gay	10.00
Albert Gehring	20.00
C. W. Gerould	2.00
John Brown Gerrish	100.00

Amount carried forward, \$18,795.71

Amount brought forward, \$18,795.71	
Edward H. Gilbert	5.00
Horatio J. Gilbert	25.00
S. Lewis Gillett	5.00
Ginn & Co.	1,000.00
Girls' Friendly Society, W.	
Roxbury	8.00
John H. Gitterman	5.00
Joseph B. Glover	100.00
George Lincoln Goodale . . .	50.00
Miss A. M. Goodwin	50.00
Frederic S. Goodwin	10.00
Mr. and Mrs. Hersey B.	
Goodwin	50.00
James W. Goodwin	5.00
Miss May Evert Goodwin . . .	10.00
Mr. and Mrs. W. W. Goodwin .	50.00
Miss Alice Bache Gould . . .	10.00
Mr. and Mrs. William H.	
Gove	25.00
Robert Grant	10.00
F. C. Gray	50.00
Mr. and Mrs. Morris Gray . .	50.00
Reginald Gray	25.00
Charles M. Green	25.00
Frederick L. Greene	2.00
Mrs. James Greenleaf	100.00
Charles P. Greenough	25.00
J. B. Greenough	25.00
Malcolm S. Greenough	20.00
Mr. and Mrs. Henry S. Grew .	100.00
L. S. Griswold	10.00
Charles E. Guild	25.00
C. E. Guild, Jr.	10.00
Miss H. J. Guild	20.00
Charles Burton Gulick	2.00
Elisha Gunn	25.00
A. C. Gunnee	25.00
E. M. H.	5.00
E. M. H.	10.00
H. B. H.	10.00
H. H.	5.00
H. E. H.	100.00
E. B. Hale	10.00
Edward E. Hale, Jr.	5.00
Mrs. G. S. Hale	10.00
Miss Mary L. Hall	8.00
Thomas Hall, Jr.	10.00
N. P. Hallowell	10.00

Amount carried forward, \$30,925.71

Amount brought forward, \$20,925.71	
N. Penrose Hallowell . . .	5.00
Robert H. Hallowell . . .	5.00
E. P. Hamlen	10.00
Learned Hand	50.00
Paul H. Hanus	10.00
Francis B. Harrington . .	10.00
Mr. and Mrs. W. F. Harris	25.00
E. R. Hastings	5.00
Thomas S. Hathaway . . .	25.00
John Hay	100.00
H. J. Hayden	25.00
Emily H. Hayward	5.00
George Hayward	5.00
James W. Hayward	25.00
Sidney M. Hedges	10.00
Augustus Hemenway . . .	1,000.00
Mrs. Charles P. Hemenway	100.00
Estate of Mary Hemenway .	1,000.00
Mary A. Hemenway	5.00
John B. Henck	25.00
A. H. Hews	10.00
George Higginson	50.00
Henry L. Higginson, Treas.	20,000.00
James J. Higginson	100.00
T. W. Higginson	10.00
Henry A. Hildreth	10.00
J. L. Hildreth	10.00
A. D. Hill	10.00
Mr. and Mrs. A. S. Hill . .	100.00
Samuel Hill	50.00
Hingham Branch Woman's	
Alliance	20.00
Samuel Hoar	100.00
Rose Hollingsworth	10.00
O. W. Holmes	25.00
John Homans	10.00
Robert Homans	10.00
Frederic C. Hood	5.00
Sarah H. Hooker	25.00
E. W. Hooper	500.00
Mr. and Mrs. J. P. Hopkinson	100.00
Miss L. W. Hopkinson . . .	30.00
Miss Cornelia Horsford . .	10.00
Miss Katharine Horsford . .	10.00
Clement S. Houghton . . .	50.00
Miss E. G. Houghton	500.00
Houghton, Miffin & Co. . .	100.00
The Misses Houghton . . .	25.00
Amount carried forward, \$45,250.71	

Amount brought forward, \$45,250.71	
C. F. Hovey & Co.	500.00
Alonzo P. Howard	5.00
E. W. Howard	5.00
Sophia W. Howard	25.00
M. A. DeWolfe Howe . . .	5.00
Elmer P. Howe	25.00
Wirt Howe	5.10
Osborne Howes	25.00
C. J. Hubbard	10.00
F. A. Hubbard	2.00
James M. Hubbard	10.00
Mrs. J. M. Hubbard	10.00
John Hubbard	5.00
Paul M. Hubbard	5.00
John E. Hudson	100.00
Charles A. Humphreys . . .	2.00
M. Hutchinson	10.00
Clement C. Hyde	10.00
C. I. I.	50.00
J.	2.00
Charles L. Jackson	10.00
Edward Jackson	25.00
Henry Jackson	10.00
Oscar P. Jackson	5.00
Robert A. Jackson	10.00
Alfred Jaretski	5.00
William A. Jeffries	10.00
John Story Jenks	100.00
Robert D. Jenks	25.00
Charles E. Johnson	100.00
Francis H. Johnson	25.00
G. E. Johnson	2.00
Jesse H. Jones	1.00
William P. Jones	5.00
Jones, McDuffee & Stratton	
Co.	100.00
Jordan, Marsh & Co.	500.00
Stillman F. Kelley	50.00
F. L. Kennedy	10.00
George G. Kennedy	50.00
C. G. Kidder	25.00
Kidder, Peabody & Co. . . .	1,000.00
R. Kidner	5.00
J. W. Kilbreth	5.00
Mr. and Mrs. David P. Kimball	1,000.00
Mrs. Susan S. Kimball . . .	50.00
D. King	5.00
Amount carried forward, \$49,194.81	

Amount brought forward, \$49,194.81	
King Kenadon Castle, No. 91,	
K.O.K.A., N. Attleboro	5.00
Edward W. Kinsley Post,	
No. 113, G.A.R.	113.00
Hamilton Kuhn	50.00
Mrs. Hartman Kuhn	250.00
Kuhn, Loeb & Co.	500.00
G. L.	25.00
J. H. L.	15.00
L. P. L.	5.00
M. A. L.	2.00
H. A. Lamb	50.00
Miss Rose Lamb	10.00
Mr. and Mrs. W. B. Lam-	
bert	25.00
A. Ward Lamson	25.00
Arthur Lawrence	25.00
William Lawrence	100.00
E. D. Leavitt	100.00
Elliot C. Lee	100.00
Francis H. Lee	10.00
Mrs. Henry Lee	100.00
Joseph Lee	1,000.00
Lee, Higginson & Co.	1,000.00
Albert R. Leeds	5.00
George V. Leverett	100.00
Charles S. Lincoln	5.00
Solomon Lincoln	100.00
Lucius N. Littauer	100.00
Collection at Sunday Union	
Service, W. Littleton	1.31
W. A. Locke	5.00
Henry Cabot Lodge	50.00
Miss Alice W. Longfellow	100.00
A. W. Longfellow	10.00
Elmer A. Lord	5.00
A. P. Loring	50.00
William Caleb Loring	100.00
T. K. Lothrop	100.00
Charles E. Loud	10.00
J. P. Loud	10.00
G. D. Low	25.00
Mr. and Mrs. F. O. Lowden	25.00
Francis C. Lowell	100.00
Miss Lucy Lowell	50.00
Miss Julia Lyman	50.00
Miss Mabel Lyman	10.00
Mrs. Theodore Lyman	1,000.00

Amount carried forward, \$54,716.12

Amount brought forward, \$54,716.12	
D. G. Lyon	25.00
Mr. and Mrs. Wm. H. Lyon	10.00
John P. Lyons	5.00
A. M. M.	10.00
S. V. M.	10.00
Louis B. McCagg	25.00
George Grant McCurdy	5.00
George H. McFadden & Bro.	100.00
José A. Machado	10.00
Alexander McKenzie	5.00
Henry S. Mackintosh	2.00
Mrs. Donald McLean	10.00
Manchester, Mass.	100.00
Manchester, Mass.	100.00
Elias H. Marston	5.00
Selden E. Marvin, Jr.	10.00
A. G. Mason	5.00
Charles F. Mason	10.00
M. B. Mason	250.00
Maurice Whittemore Mather	5.00
Albert Matthews	10.00
Henry F. May	10.00
Julian A. Mead	5.00
Frederick H. Means	10.00
Mr. and Mrs. Edwin D. Mellen	50.00
In memoriam	250.00
Mrs. Daniel Merriam	100.00
Benjamin P. Merrick	5.00
Miss Susan D. Messenger	5.00
Sidney E. Mezes	5.00
H. E. Miles	10.00
H. R. Miles	5.00
Hiram F. Mills	100.00
Sidney R. Miner	2.00
Oliver W. Mink	25.00
Mr. and Mrs. R. S. Minot	25.00
Miss M. C. Mixter	20.00
John F. Moors	50.00
George B. Morison	50.00
Edward S. Morse	25.00
Miss Frances R. Morse	100.00
Godfrey Morse	25.00
Robert M. Morse	50.00
John Wells Morse	25.00
Charles W. Munroe	10.00
J. J. Myers	10.00
W. J. N.	25.00
Nettleton Neff	2.00

Amount carried forward, \$56,427.12

Amount brought forward, \$56,427.12		Amount brought forward, \$58,497.09	
Newport Teachers' Assoc'n	25.00	David Pingree	50.00
Frederick W. Nicholls . .	5.00	Mr. and Mrs. William Tag-	
John T. G. Nichols	10.00	gard Piper	20.00
C. E. Nixdorff	50.00	H. V. Poor	10.00
Rupert Norton	50.00	Mrs. Burr Porter	10.00
Carleton E. Noyes	10.00	V. Mott Porter	10.00
Walter Oakes	5.00	Helen H. Prescott	25.00
Old South Church	241.47	Mary R. Prescott	25.00
John C. Olmsted	10.00	Oliver Prescott, Jr. . . .	50.00
Warren Olney, Jr.	2.50	George Putnam	100.00
L. S. Osborne	5.00	Mrs. George Putnam . . .	100.00
Mrs. E. B. Osgood	50.00	Georgina Lowell Putnam .	15.00
Professor Osler	10.00	James L. Putnam	25.00
E. W. S. P.	10.00	James J. Putnam	10.00
G. H. P.	5.00	Henry W. Putnam	50.00
J. H. P.	100.00	W. E. Putnam, Jr. . . .	10.00
J. M. P.	5.00	William Rand	10.00
George G. Page Box Co. .	10.00	F. F. Raymond, 2d	25.00
Robert Treat Paine	100.00	Sarah E. Read	25.00
Mr. and Mrs. Robert Treat		William Read & Sons . . .	50.00
Paine, Jr.	25.00	Church of the Redeemer,	
Mr. and Mrs. R. T. Paine, 2d	25.00	Bryn Mawr, Pa.	5.00
W. Prentiss Parker	10.00	W. H. Reed, Jr.	5.00
Parkinson & Burr	250.00	Edward A. Renouf	5.00
Mr. and Mrs. H. Parkman	25.00	Revere Sugar Refinery . .	250.00
Miss M. R. Parkman . . .	25.00	James F. Rhodes	250.00
James P. Parmenter	10.00	Fred B. Rice	50.00
Charles Peabody	25.00	N. W. Rice	150.00
Mr. and Mrs. Francis G.		Theodore W. Richards . .	10.00
Peabody	50.00	A. C. Richardson	5.00
George F. Peabody	50.00	Mark W. Richardson . . .	5.00
Robert S. Peabody	50.00	Thomas R. Rodman	5.00
W. Rodman Peabody	10.00	Catherine L. Rogers and	
Mrs. Augustine F. Peck . .	10.00	Clara Bates Rogers . . .	10.00
W. G. Peckham	25.00	James H. Ropes	5.00
B. O. Peirce	25.00	W. L. Ropes	1.00
J. M. Peirce	25.00	William L. Ropes	2.00
Franklin Perrin	5.00	Caroline E. Ross	10.00
W. T. Perrin	1.00	Denman W. Ross	100.00
D. T. Perry	10.00	Mrs. John L. Ross	100.00
G. G. Peters	50.00	T. M. Rotch	25.00
W. D. Philbrick	50.00	G. F. Rouillard	1.00
Mrs. J. C. Phillips	100.00	George H. M. Rowe	10.00
Mr. and Mrs. Henry Pick-		Josiah Royce	30.00
ering	200.00	Frank A. Russell	5.00
Dudley L. Pickman	100.00	Miss Marian Russell . . .	100.00
M. V. Pierce	10.00	E. R. S.	25.00
S. S. Pierce Co.	200.00	S. H. S.	20.00
Amount carried forward, \$58,497.09		Amount carried forward, \$60,301.09	

Amount brought forward, \$60,301.09	
S. P. S.	15.00
S. S. S. & N. H. D.	5.00
W. C. Sabine	50.00
Stephen Salisbury	500.00
Mrs. R. M. Saltonstall	25.00
D. A. Sargent	25.00
Alfred G. Scattergood	5.00
Katherine Scudder	25.00
Arthur Searle	5.00
Mr. & Mrs. J. M. Sears	500.00
Mrs. Philip H. Sears	100.00
Henry D. Sedgwick	25.00
Emily Sever	20.00
N. S. Shaler	20.00
Frederick C. Shattuck	50.00
George B. Shattuck	50.00
Mrs. B. S. Shaw	10.00
Mrs. G. H. Shaw	250.00
Directors of National Shaw-	
mut Bank	1,000.00
D. L. Shearer	5.00
Edward S. Sheldon	20.00
Teachers of Shepard School,	
No. Cambridge	10.00
William Simes	25.00
Samuel W. Skinner	10.00
M. C. Sloss	5.00
H. P. Smith	10.00
Jeremiah Smith	25.00
Theodore Clark Smith	5.00
H. L. Smyth	10.00
William D. Sohler	50.00
W. R. Spalding	5.00
John F. Spaulding	50.00
Charles F. Sprague	100.00
F. P. Sprague	50.00
R. H. Stearns & Co.	100.00
Ellery Stedman	5.00
William Stanford Stevens	10.00
Caroline J. Stevenson	20.00
Albert Stickney	50.00
A. K. Stone	10.00
Mrs. R. B. Storer	25.00
Charles Storrow	25.00
James J. Storrow	100.00
Masters at St. Paul's School,	
Concord, N. H.	60.00
F. C. Stratton	25.00
Amount carried forward, \$63,791.09	

Amount brought forward, \$63,791.09	
Charles W. Sturgis	15.00
Francis J. Swayne	10.00
Henry W. Swift	5.00
William N. Swift	25.00
Giles Taintor	5.00
Mrs. Thomas Talbot	50.00
F. W. Taussig	25.00
J. Clarence Taussig	5.00
Charles F. Taylor & Co.	25.00
Miss Elizabeth B. Thatcher	50.00
Louis B. Thatcher	15.00
T. C. Thacher	10.00
Sidney W. Thaxter	10.00
Addison S. Thayer	5.00
Ethel Randolph Thayer	100.00
Ezra R. Thayer	50.00
Mr. & Mrs. J. B. Thayer	100.00
John E. Thayer	100.00
J. Henry Thayer	30.00
Mr. & Mrs. William R.	
Thayer	10.00
Leverett Thompson	10.00
Robert M. Thompson	100.00
J. L. Thorndike	100.00
Mr. & Mrs. J. G. Thorp	100.00
Fred C. Thwaits	10.00
Elizabeth H. Tiffany	5.00
W. H. Tillinghast	5.00
Robert N. Toppan	15.00
Frederick Townsend	10.00
C. H. Toy	10.00
G. C. Travis	10.00
Alfred Tuckerman	10.00
Education Department,	
Twentieth Century Club	100.00
Undergraduates not in Col-	
lege Dormitories	650.00
H. O. Underwood	100.00
Miss Susan Upham	30.00
Samuel Usher	60.50
V.	5.00
Francis W. Vaughan	10.00
F. H. Viaux	10.00
A. R. W., Jr.	10.00
M. W.	50.00
S. H. W.	20.00
Eliot Wadsworth	5.00
Mary C. Wadsworth	50.00
Amount carried forward, \$65,921.59	

Amount brought forward, \$65,921.59		Amount brought forward, \$67,440.19	
Henry P. Walcott	100.00	William Orne White	20.00
Alfred Wallerstein	5.00	Mrs. S. B. Whiting	25.00
C. M. Walsh	10.00	Teachers of Whitman and	
G. L. Walton	2.00	Rockland, Mass.	29.00
Eugene Wambaugh	25.00	Henry M. Whitney	100.00
A. H. Ward, Jr.	1.00	Mrs. Henry M. Whitney . .	100.00
R. DeC. Ward	10.00	Morris Whitredge	5.00
Samuel G. Ward	100.00	Mrs. G. W. & Mr. G. H.	
Charles E. Ware	5.00	Whittemore	10.00
Harriet Ware	10.00	James K. Whittemore . . .	25.00
H. E. Ware	20.00	George Wigglesworth . . .	100.00
Miss Mary L. Ware	50.00	Charles A. Williams . . .	25.00
Mr. & Mrs. J. B. Warner . .	25.00	Frank Backus Williams . .	5.00
Mrs. Cyrus M. Warren . .	10.00	Mr. & Mrs. J. Bertram Wil-	
Edward R. Warren	25.00	liams	10.00
J. Collins Warren	20.00	John D. Williams	100.00
Susan C. Warren	250.00	Mr. & Mrs. Robert W. Will-	
Samuel D. Warren	250.00	son	100.00
William H. Warren	5.00	Owen Wister	5.00
Henry Bradford Washburn .	2.00	Roger Wolcott	250.00
Teachers of Watertown and		Roger Wolcott, Jr.	25.00
Reading	26.60	Edward S. Wood	25.00
B. M. Watson	10.00	Willis P. Woodman	10.00
Paul Barron Watson	10.00	A. H. Woods	5.00
Aaron D. Weld's Sons . . .	25.00	Joseph W. Woods	25.00
Mr. & Mrs. George F. Weld .	50.00	Samuel B. Woodward . . .	25.00
Mrs. Austin C. Wellington .	20.00	Little Workers, Newton	
Bulkeley Wells	50.00	Centre	10.00
A Well-wisher	2.00	William Worthington . . .	25.00
Barrett Wendell	25.00	Esther Fidelia Wright . . .	50.00
Walter Wesselhoeft	25.00	John G. Wright	50.00
William P. Wesselhoeft . .	25.00	Theodore F. Wright . . .	20.00
Leonard Wheeler	25.00	Charles Wyman	250.00
George A. Wheelock	100.00	Yale-Princeton-Harvard	
Edmund M. Wheelwright . .	10.00	Graduate	35.00
Edward Wheelwright	50.00	William H. Young	10.00
Wheelwright, Eldredge & Co.	100.00	X. Y. Z.	50.00
Alice B. White	10.00		
Charles J. White	5.00		\$68,964.19
M. E. White	5.00	Interest on deposit	151.87
Moses P. White	20.00		
Amount carried forward, \$67,440.19			\$69,116.06
Mrs. Quincy A. Shaw, for instruction in Kindergarten work			500.00
Mrs. Quincy A. Shaw " " Sloyd			400.00
			\$70,016.06

In addition to the gifts in money, above mentioned, for the instruction and maintenance of certain Cuban Teachers during

a course at the Summer School of 1900, gifts in the form of articles furnished, or of discounts from the market prices of articles bought, were received as follows. From

H. L. Aldrich Co.	\$5.98	Amount brought forward .	\$2,189.96
Anonymous	88.12	W. H. Jones & Co.	67.00
Anonymous	827.80	S. S. Learnard	80.21
Walter Baker & Co., Limited	52.90	John F. Neill	7.40
Crosby Bros. Co.	262.95	Nathan Robbins Co.	67.25
Davis Chapin Co.	70.71	Robbins Spring Water Co. .	74.20
John C. Dow Co.	5.20	C. M. Ryder	101.21
L. M. Dyer & Co.	66.84	Shattuck & Jones	43.49
Eastern Salt Co.	9.00	Shepard, Norwell & Co. . .	12.94
C. B. Foster	25.70	Fred F. Squire & Co. . . .	67.31
J. E. Foster & Co.	34.06	Sturtevant & Haley	162.48
Fresh Pond Ice Co.	50.00	Joshua Thorndike & Co. . .	98.09
J. T. Glines Co.	72.05	United Fruit Co.	395.46
Hall & Cole	18.65	Vienna Pressed Yeast Co. .	5.00
D. C. Heath & Co.	600.00	Charles A. Wilcox & Co. .	23.61
Amount carried forward .			\$3,390.56

From an anonymous giver, \$350, for the Ricardo Prize Scholarship for 1900-01.

From Evert Jansen Wendell, \$50, towards the furnishing of Phillips Brooks House.

For the South End House Fellowship for the year 1900-01, from

Julian L. Coolidge	\$100
Edward W. Grew	100
Randolph C. Grew	100
James A. Lowell	100
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	\$400

From the estate of John Holmes, \$286.23, on account of his bequest of \$300 for the benefit of poor students.

From Mrs. Emil C. Hammer, in memory of her husband, formerly Danish Consul at Boston, \$500, for the purchase of books in a Scandinavian language or on a Scandinavian subject, and for a public lecture on a Scandinavian subject or a musical entertainment at which Scandinavian music shall be played.

From the Deutscher Verein, \$50, for books for the Department of Germanic Languages and Literatures.

From Alfred T. White, \$250, to be expended under Professor Peabody's direction for the Social Questions Library.

Through E. S. Sheldon, \$67.44, being the amount of subscriptions paid to the committee for the purchase of Professor James Russell Lowell's books for the Lowell Memorial Library of Romance Literature, in excess of the amount expended for that purpose by the committee, — to be added to the sum now available for the department library of Romance languages.

From Arthur T. Lyman, \$200, for charts and other apparatus of instruction for the use of the Department of Political Economy.

For a new lantern for the Department of Geology, from

Charles Fairchild	\$250
George P. Gardner	250
	<hr/>
	\$500

From John K. Paine, \$1.17, for the purchase of books for the Department of Music.

For the Botanic Garden, from

Anonymous	\$350
Anonymous	320
Anonymous	1,000
H. H. Hunnewell	2,000
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	\$3,670

Through Miss Marian C. Jackson, \$1,000, for the salary for 1899–1900 of the Instructor in the History and Art of Teaching.

From an anonymous giver, \$200, an unrestricted gift.

From an anonymous giver, \$250, to be used by Professor Trowbridge “in defraying the expenses of original physical research, preference being given to investigations in magnetism.”

Through R. T. Jackson from an anonymous giver, \$6.30, for the Laboratory of Palaeontology.

Towards the expenses of the Chamber Concerts in 1899–1900, from

Frederic R. Comee	\$50.00
John K. Paine	16.80
	<hr/>
	\$66.80

From Henry L. Higginson, \$552.90, to pay the deficit of three series of Chamber Concerts given in 1897-98, 1898-99, and 1899-1900.

For expenses in 1900-01 in Music 7, from

Percy L. Atherton	\$40
Frederick S. Converse	20
Charles Peabody	40
	<hr/>
	\$100

For the Gray Herbarium, from

Walter B. Adams	\$10	Amount brought forward . .	\$465
Mrs. F. L. Ames	10	C. H. Dalton	10
Miss Mary S. Ames	10	Samuel B. Dana	10
Anonymous	10	Frank A. Day	10
Anonymous	100	Walter Deane	15
Howard P. Arnold	10	F. Gordon Dexter	10
S. B.	10	George Dexter	10
C. M. Baker	10	William S. Dexter	10
Walter C. Baylies	10	Edward S. Dodge	10
Thomas P. Beal	10	Mrs. Samuel Downer	10
J. Arthur Beebe	10	Mrs. Herbert Dumaresq	10
W. S. Bigelow	10	Edmund Dwight	10
S. Parkman Blake	10	Mrs. T. W. Elliot	10
William P. Blake	10	George F. Fabyan	10
Mrs. Dwight Blaney	10	J. S. Fay, Jr.	10
H. P. Bowditch	10	Frederick P. Fish	10
J. C. Braman	5	R. H. Fitz	10
Mrs. J. L. Bremer	10	Augustus Flaggy	10
Miss Sarah F. Bremer	10	S. W. Fletcher	10
Edward I. Browne	10	Miss Amy Folsom	10
Stephen Bullard	10	F. A. Foster & Co.	10
Mrs. William S. Bullard	10	Mrs. Francis C. Foster	10
John A. Burnham	10	J. D. Williams French	10
Prescott H. Butler	10	A friend	500
H. D. Chapin	10	A friend	10
Charles F. Choate	10	Miss Ellen Frothingham	10
John M. Clark	10	Robert O. Fuller	10
Miss Louise H. Coburn	10	Charles W. Galloupe, Sr.	10
Miss Helen Collamore	10	Thomas B. Gannett	10
Mrs. Charles A. Cummings	10	Robert H. Gardiner	10
Allen Curtis	10	Horatio J. Gilbert	10
Mrs. Charles P. Curtis	10	Ginn & Co.	10
Mrs. G. S. Curtis	10	George A. Goddard	10
Mrs. James F. Curtis	10	Mrs. B. F. Goodrich	10
John G. Curtis	10	Miss Frances Goodwin	10
R. M. Cushing	10	Mrs. Asa Gray	50
Miss Sarah P. Cushing	10	Mrs. F. T. Gray	10
Estate of Abram E. Cutter	10	Arnold Green	10
Amount carried forward . .	\$465	Amount carried forward . .	\$1,370

Amount brought forward . . .	\$1,370	Amount brought forward . . .	\$2,385
Mrs. James Greenleaf	10	Miss Sarah E. Read	10
John Greenough	10	Mrs. W. H. Reed	10
Mrs. Charles L. Harding	10	G. E. Richards	10
Charles Head	10	S. W. Rodman	10
Augustus Hemenway	10	Denman W. Ross	10
Nathaniel H. Henchman	10	Mrs. M. D. Ross	10
Mrs. Henry L. Higginson	10	Mrs. Waldo O. Ross	10
T W Higginson	5	James E. Rothwell	10
Miss Sarah Huntington Hooker	10	Mrs. Robert S. Russell	10
Miss Katharine Horsford	10	Mrs. Winthrop Sargent	10
Henry S. Howe	10	George O. Sears	10
Charles W. Hubbard	10	Mrs. Knyvet W. Sears	20
John E. Hudson	10	Mrs. P. H. Sears	10
Henry S. Hunnewell	10	Francis Shaw	10
James F. Hunnewell	10	Francis Skinner	20
Walter Hunnewell	10	George O. Smith	10
Charles W. Jenks	10	C. F. Sprague	25
Edward C. Johnson	10	Miss S. F. Storer	10
N. T. Kidder	125	I. Homer Sweetser	10
David P. Kimball	10	Royal C. Taft	10
L. C. Kimball	10	H. C. Thacher	10
E. D. Leavitt	10	Bayard Thayer	10
Elliot C. Lee	10	John E. Thayer	10
George C. Lee	10	Nathaniel Thayer	10
George V. Leverett	10	S. Lothrop Thorndike	10
Mrs. George Linder	10	H. O. Underwood	10
Mrs. Mary E. Lodge	10	Mrs. G. W. Wales	10
Miss Katharine P. Loring	10	Miss Caroline E. Ward	10
Mrs. George G. Lowell	10	Samuel M. Warren	10
Arthur T. Lyman	10	B. M. Watson	10
Albert Matthews	10	F. G. Webster	10
Joshua Merrill	10	Mrs. F. G. Webster	10
Mrs. Samuel T. Morse	10	Charles W. Welch	10
William A. Munroe	10	Stephen M. Weld	10
Grenville H. Norcross	10	Dr. & Mrs. Walter Wesselhoeft	10
Peder Olsen	10	William P. Wesselhoeft	10
Miss Emily L. Osgood	10	George R. White	425
Francis H. Peabody	425	S. B. Whiting	10
Frank E. Peabody	10	Miss Anne Whitney	10
Miss Mary R. Peabody	10	Mrs. Edward Whitney	10
Mrs. John C. Phillips	10	Miss Adelia C. Williams	10
Mrs. Dudley L. Pickman	10	E. F. Williams	200
David Pingree	10	Robert Winsor	10
Henry W. Poor	10	Mrs. Roger Wolcott	10
Laban Pratt	10	Edward S. Wood	10
Benjamin S. Pray	10	Mrs. Charlotte F. Woodman	10
O. L. Prescott	10	Miss Mary Woodman	10
Edward L. Rand	10	H. D. Yerxa	10
Harry Seaton Rand	10	C. L. Young	10
Amount carried forward . . .	\$2,385		\$3,515

From Thornton K. Lothrop, \$80.67, for purchasing a collection of the Oxford Newdigate Prize Poems for the College Library, and for providing suitable leather cases for the collection.

From Charles S. Storrow, \$22.10, for leather cases made for the better preservation of the records and papers of the class of 1829, now in the possession of the Library.

For the purchase of books for the College Library, from

Archibald Cary Coolidge	\$1,287.79
Andrew Ingraham	5.00
Members of the course in Government 6	6.50
	<hr/>
	\$1,299.29

From J. Randolph Coolidge, \$2,000, to be used, in addition to the unexpended balance of his gift of \$3,000 for the purchase of books on Turkey and the Eastern Question, for the purchase of the Riant collection for the College Library.

From John Harvey Treat, \$800, to cover the expense of the portion of the Riant library devoted to theology and hagiography.

From Edward S. Sheldon, \$45, to cover the expense of certain volumes in the Riant collection which are to be placed in the Lowell Memorial Library.

From the Society for Promoting Theological Education, \$3,535.71, for the library of the Divinity School.

From Charles L. Noyes, \$5, for the use of the Divinity School.

For the purchase of a collection of mammal skins for the Museum of Comparative Zoölogy, from

Walter C. Baylies	\$25	Amount brought forward . .	\$1,325
Henry B. Bigelow	25	Levy Mayer	100
P. C. Brooks	200	E. P. Motley	25
Miss Eleanor V. Clark	50	Willard S. Peele	30
L. Carteret Fenno	25	John C. Phillips	400
Charles F. Folsom	100	S. W. Rodman	25
J. Malcolm Forbes	100	Frederick C. Shattuck	50
Augustus Hemenway	200	Charles F. Sprague	25
Elliot C. Lee	250	John E. Thayer	200
Mrs. Henry Lee	250	Samuel D. Warren	200
	<hr/>		<hr/>
Amount carried forward . .	\$1,225		\$2,280

From W. H. Potter, \$5, for the Dental School.

For the Surgical Laboratory, from

C. W. Amory	\$200
W. S. Bigelow	200
Henry C. Pierce	200
	<hr/>
	\$600

From an anonymous giver, \$325, for a microscope for the Department of the Medical School "devoted to the investigation of cancer under the trust fund created by the will of the late Caroline Croft."

For increasing certain salaries in the Medical School, from

W. S. Bigelow	\$100
Charles S. Minot	200
James J. Putnam and Moorfield Storey, Trustees .	1,000
	<hr/>
	\$1,300

From an anonymous giver, \$500, to be added to the Dental School building fund.

For the Free Clinic for animals in connection with the School of Veterinary Medicine, from

		Amount brought forward . . .	\$234
C. F. Adams	\$25	Richard C. Humphreys	2
The Misses S. W. & H. E. Battelle	2	David P. Kimball	25
Mrs. Herbert Beech	10	Mrs. F. C. Manning	5
James C. Braman	5	Miss Eleanor G. May	3
Mrs. J. L. Bremer	50	Miss Héloïse Meyer	5
Edward M. Brewer	5	Grenville H. Norcross	10
Miss Harriet T. Browne	10	L. Josephine Parker	15
Mrs. Freeman J. Bumstead	5	Mr. & Mrs. Henry Pickering	25
Miss Martha C. Codman	25	Malbon Gore Richardson	10
Robert Codman	5	S. W. Rodman	10
Mrs. G. R. Coffin	2	Louis B. Thacher	3
William S. Dexter	20	Mrs. Henry V. Ward	5
William H. Dunbar	5	N. Ward Company	10
Charles F. Folsom	15	Samuel D. Warren	20
Miss Ellen Frothingham	5	Andrew C. Wheelwright	10
Mrs. Frederick L. Gay	25	John D. Williams	25
Edward W. Grew	10	Miss Louise H. Williams	25
Edward H. Hall	10	Ralph B. Williams	25
	<hr/>		<hr/>
Amount carried forward . . .	\$234		\$467

From Theobald Smith, \$25, towards the expenses for research in the Laboratory of Comparative Pathology.

Through E. C. Pickering, \$690.36, the unexpended balance of two anonymous gifts, of one thousand dollars each, for constructing and testing a form of long focus telescope for the Observatory; to be expended for the completion of the telescope and in using it on the island of Jamaica, or elsewhere.

From Mrs. Henry Draper, of New York, an additional sum of \$9,999.96, to be expended by the Director of the Observatory in prosecuting the researches in the photography of stellar spectra, with which the late Dr. Henry Draper's name is honorably associated.

From the Harvard Club of New York, \$5,000 additional, towards building a new boat-house.

From Alexander Agassiz, \$6,145, for changes and improvements in the new boat-house.

For additions to the Semitic collections, from

Mrs. Henry S. Grew	\$1,000	Amount brought forward . .	\$2,220
Frank A. Hill	10	Charles Peabody	100
Mr & Mrs. David P. Kimball .	1,000	John Read	50
The Misses Kimball	100	Barthold Schlesinger	500
Louis E. Kirstein	10	Alvin F. Sortwell	50
Erasmus D. Leavitt	100	Charles Weil	50
Amount carried forward . .			\$2,970

From Miss Abby A. Bradley, \$400, to be added to the income of the William L. Bradley Fund for 1899-1900.

From the Massachusetts Society for Promoting Agriculture, its third annual payment of \$2,500, "to be expended at the Arnold Arboretum by the Director to increase the knowledge of Trees."

From the Department of Germanic Languages and Literatures, \$893.33, the proceeds of a performance of Goethe's "Iphigenie," given in Sanders Theatre, to be added to the gifts for collections for a Germanic Museum.

From the family of the late John Simpkins, \$15,000, to be used in fitting up a room, for instruction in mining engineering, which is to be called permanently the John Simpkins Hall.

From the anonymous giver, who last year gave \$100,000 for the endowment of an Architecture Building, \$115,000 for erecting the building, and \$20,000 for the purchase of books, prints, casts, etc.

For the Peabody Museum of American Archaeology and Ethnology, for salaries and expenses, from

Mrs. N. E. Baylies	\$25
Augustus Hemenway	150
Clarence B. Moore	500
John C. Ropes	100
	<hr/>
	\$775

From Alexander Agassiz, Mr. and Mrs. Quincy A. Shaw, and Mrs. Henry L. Higginson, \$100,000, for the immediate construction of the southwest corner of the Oxford Street façade of the University Museum.

From James Stillman, \$50,000 additional, "towards the cost of erecting and endowing an Infirmary at Cambridge, for the benefit of the students of Harvard College."

From Jacob H. Schiff, \$50,000, for "the erection of a building to house the Semitic collection, and for the needs of the Semitic Department of the College."

The total amount of these gifts for immediate use (excluding the gifts, on account of the Cuban Teachers, of articles, and of discounts from the market prices of articles bought, amounting in value to \$3,390.56) is \$475,295.32, as is also stated on page 36 of this report.

CHARLES F. ADAMS, 2D, Treasurer.

Boston, October 19, 1900.

ACCOUNTS.

*General Statement of Receipts and Disbursements
for the year ending*

INCOME.

Interest on notes, mortgages, advances, &c.,	\$46,706.99	
Interest on Policies Mass. Hospital Life Insurance Co.,	849.00	
Interest on Bank Deposits.		
Deposit in New England Trust Co.,	\$286.12	
" " National Union Bank,	4,735.30	
" " Suffolk National Bank,	7.01	5,028.43
Interest on Public Funds (after deducting \$5,938.61 for sinking premiums).		
United States 5's,	\$2,945.21	
" " 4's,	14,665.34	
Massachusetts 3½'s,	1,339.40	
City of Boston 3½'s,	850.00	
" " 4's,	269.75	19,569.70
Interest on Sundry Bonds (after deducting \$2,425.58 for sinking premiums).		
Metropolitan Tel. & Tel. Co. 5's,	\$7,500.00	
New England Tel. and Tel. Co. 6's,	7,128.90	
" " " 5's,	4,058.82	
American Bell Telephone Co. 4's,	10,162.71	
" Tel. and Tel. Co. 4's,	3,886.11	
Walter Baker & Co. Ltd. 4½'s,	14,400.00	
Chicago Junc. Railways & Union Stock Yards Co. 5's,	14,979.85	
Chicago Junc. Railways & Union Stock Yards Co. Income 5's,	4,875.00	
Broadway Realty Co. 5's,	8,052.62	
Girard Point Storage Co. 3½'s,	691.52	75,735.53
Interest on Railroad Bonds (after deducting \$16,433.03 for sinking premiums).		
Fremont, Elkhorn & Mo. Valley 6's,	\$341.67	
Central Vermont 4's,	1,740.00	
Rutland 6's,	569.33	
Chicago, Burlington & Northern 5's,	75.00	
Chicago, Burlington & Quincy 3½'s,	10,719.46	
Chicago, Burlington & Quincy 4's,	120.00	
Chicago, Burlington & Quincy 7's,	14,064.16	
Burlington & Mo. River in Neb. 6's,	22,127.95	
Eastern sterling 6's,	5,728.60	
Eastern 6's,	18,692.34	
Fort Scott, So. E. & Memphis 7's,	6,122.00	
Chicago & No. W., Madison Extension 7's,	5,310.09	
Minneapolis Union 5's,	4,866.83	
Kansas & Missouri 5's,	2,983.34	
Amounts carried forward,		\$93,410.77 \$147,889.55

*of the Treasurer of Harvard College,
July 31, 1900.*

EXPENSES.

Paid to account of Expenses in the

University, as per Table I (page 58).

Salaries,	\$39,067.04	
Fellowships and Scholarships,	19,658.32	
Prizes,	500.00	
Sundry payments made from special Funds, .	16,918.19	
Other expenses,	51,027.56	
Deficit in the School of Veterinary Medicine for 1899-1900,	4,206.96	\$131,878.07

College, as per Table II (page 63).

Salaries for instruction,	\$359,784.24	
Sundry salaries,	14,605.33	
Repairs, insurance, and cleaning on College Buildings, not valued in Treasurer's books, .	69,150.95	
General expenses,	51,290.00	
Scholarships,	35,211.63	
Beneficiaries,	18,107.14	
Prizes,	1,730.39	
Botanic Garden and Botanic Museum,	12,769.00	
Gray Herbarium,	6,850.70	
Hemenway Gymnasium,	11,908.05	
Jefferson Physical Laboratory,	3,760.70	
Appleton Chapel,	9,806.12	
Summer Schools,	16,104.22	
Books from special Funds and gifts,	1,528.54	
Apparatus, &c., from special Funds and gifts, .	463.32	
Sundry payments from special Funds and gifts,	5,292.63	
Publication expenses, from special Funds and gifts,	3,546.74	
Appropriations for collections and laboratories,	86,590.69	658,500.39

Library, as per Table III (page 75).

Salaries,	\$15,750.00	
Services and wages,	18,136.62	
Books,	25,502.38	
Other expenses,	10,808.85	70,197.85

Divinity School, as per Table IV (page 78).

Salaries for instruction,	\$27,451.71	
Scholarships and Beneficiaries,	2,018.20	
Other expenses,	12,834.75	42,304.66

Law School, as per Table V (page 80).

Salaries for instruction,	\$50,500.00	
Scholarships,	3,750.00	
Other expenses,	30,187.95	84,437.95

Amount carried forward, \$986,818.92

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (*continued*).

Amounts brought forward,		\$93,410.77	\$147,889.65
Interest on Railroad Bonds (<i>continued</i>).			
Union Pacific 4's,	18,000.00		
Chicago, Rock Island & Pacific 4's,	3,960.51		
Chicago Terminal Transfer 4's,	4,000.00		
New York Central & Hudson River 3½'s (L. S. & M. S. Coll.),	4,983.10		
New York Central & H. R. 3½'s (M. C. Coll.),	1,190.00		
Baltimore & Ohio 4's,	3,422.22		
Baltimore & Ohio So. Western 3½'s,	1,625.00		
Long Island 4's,	5,266.66		
New York, Ontario & Western 4's,	1,904.24		
Bangor & Aroostook 5's (Van Buren extension),	1,592.09		
Metropolitan West Side Elevated 4's,	5,748.00		
Third Avenue 4's,	144.78	145,247.37	
Dividends on Sundry Stocks.			
Massachusetts Mutual Fire Ins. Co.,	\$40.00		
Old Boston National Bank,	36.00		
Merchants " "	102.00		
First " "	312.00	490.00	
Dividends on Manufacturing Stocks.			
Amoskeag Manufacturing Co.,	\$3,000.00		
Merrimack " "	1,020.00		
Pacific Mills,	2,200.00	6,220.00	
Dividends on Railroad Stocks.			
Chicago, Burlington & Quincy,	\$11,391.75		
New York Central & Hudson River,	9,973.75		
Pennsylvania,	2,500.00		
Vermont and Massachusetts,	120.00		
Rutland, preferred,	2,400.00		
Northern (N. H.),	1,740.00		
Fitchburg, preferred,	948.00		
Boston & Maine, preferred,	546.00		
Boston & Maine,	2,219.00		
Boston & Lowell,	3,280.00		
Boston & Albany,	2,208.00		
New York, New Haven & Hartford,	1,248.00		
Boston & Providence,	75.00		
Old Colony,	3,325.00		
West End Street, preferred,	1,008.00		
Boston Elevated,	168.00	43,150.50	
Amount carried forward,		\$842,997.52	

*of the Treasurer of Harvard College,
July 31, 1900.*

EXPENSES (*continued*).

Amount brought forward,		\$986,818.92
Medical School, as per Table VI (page 81).		
Salaries for instruction,	\$97,900.00	
Fees repaid to Instructors,	5,360.00	
Scholarships and Beneficiaries,	4,782.50	
Prizes and expenses,	162.50	
Warren Anatomical Museum,	98.57	
Books, from special Funds,	579.55	
Sundry payments made from special Funds and gifts,	3,780.79	
Laboratory appropriations,	13,293.17	
Other expenses,	30,718.75	156,625.83
Dental School, as per Table VII (page 85).		
Salaries for instruction,	\$13,662.50	
Other expenses,	13,404.17	27,066.67
Museum of Comparative Zoölogy, as per Table VIII (page 86).		
Paid from sundry Funds on the order of the Faculty,	\$22,140.40	
Sturgis Hooper Fund, salary,	4,000.00	
Scholarship,	250.00	26,390.40
Peabody Museum of American Archae- ology and Ethnology, as per Table IX (page 86).		
Peabody Professor Fund, Peabody Pro- fessor,	\$2,329.86	
Fellowships and Scholarships,	1,788.54	
Other expenses,	5,567.94	9,685.84
Observatory, as per Table X (page 87).		
Salaries,	\$13,400.00	
Other expenses,	37,828.96	51,228.96
Bussey Institution, as per table XI (page 89).		
Salaries for instruction,	\$7,050.00	
Other expenses,	7,758.99	14,808.99
Arnold Arboretum, as per Table XII (page 89).		
Salaries,	\$3,500.00	
Other expenses,	17,899.04	21,399.04
Amount carried forward,		\$1,293,974.65

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amount brought forward,				\$342,997.52
Dividends on Building Trusts Stocks.				
Essex Street Trust,	\$2,690.80			
Barristers Hall Trust,	4,000.00			
Boston Real Estate Trust,	675.00		7,365.80	
Real Estate Investments, from rents, &c., net receipts.				
Cambridge (University Houses and Lands).				
Gross receipts,	\$46,428.16			
Less Taxes,	\$7,830.26			
Insurance,	1,578.28			
Repairs, improvements, care, &c.,	12,597.56			
Repaid to capital,	2,111.17	24,117.27	\$32,310.89	
Boston (general investments).				
Gross receipts,	\$181,348.18			
Less Taxes,	\$32,348.99			
Insurance,	1,648.51			
Repairs, improvements, care, &c.,	8,617.83	42,615.33	138,727.85	
Bussey real estate.				
Gross receipts,	\$41,103.18			
Less Taxes,	\$8,084.16			
Insurance,	209.48			
Interest,	1,193.37			
Repairs, improvements, care, &c.,	547.38			
Heat and power,	4,350.76	14,335.15	26,768.03	
Sundry estates (special investments).				
Gross receipts,	\$4,799.01			
Less Taxes,	\$867.53			
Repairs,	645.99	1,513.52	3,285.49	191,092.26
Term Bills.				
College, as per Table II,	\$467,747.39			
Divinity School, as per Table IV,	7,681.95			
Law School, as per Table V,	90,933.48			
Medical School, as per Table VI,	111,469.68			
Dental School, as per Table VII,	22,740.78			
Bussey Institution, as per Table XI,	1,630.00			
School of Veterinary Medicine, as per Table XIII,	3,416.00		705,619.28	
Amount carried forward,				\$1,247,074.86

*of the Treasurer of Harvard College,
July 31, 1900.*

EXPENSES (*continued*).

Amount brought forward,	\$1,293,974.65	
School of Veterinary Medicine, as per Table XIII (page 90).		
Salaries for instruction,	\$6,590.00	
Scholarships,	200.00	
Other expenses,	15,532.26	
	<u>\$22,322.26</u>	
Less deficit for 1899-1900 assumed by the Uni- versity,	4,206.96	18,115.80
Annuities from the following Funds.		
Bussey Trust,	\$4,000.00	
Gurney,	1,000.00	
Alexander W. Thayer,	360.00	
Anonymous,	200.00	5,560.00
Class Funds.		
Paid the Secretary of the Class of 1844, . .	\$100.00	
" " " " 1853, . .	149.00	249.00
Sundry payments from income.		
From Gray Fund, for Engravings, collections, salary and expenses,	\$1,351.50	
From Daniel Williams Fund, for the benefit of the Herring Pond and Masphee Indians, . .	755.10	
From Sarah Winslow Fund, to the Minister and Teacher at Tyngsborough, Mass., . . .	218.70	
From John Witt Randall Fund, collections, salary and expenses,	974.16	
From Harvard Memorial Society Fund, services,	50.00	
From Gifts for Cuban Teachers, expenses, . . .	9,923.48	
From Woodland Hill Fund, plans,	7.00	13,274.89
Construction Funds.		
Randall Hall,	\$44,119.70	
Stillman Infirmary,	1,502.00	
Phillips Brooks House,	20,559.85	
Improvement of The Soldier's Field,	9,352.17	
Launch Frank Thomson,	5,625.00	
New Boat House,	24,958.15	
Architecture Building,	3,207.02	
Semitic Building,	1,498.33	
John Simpkins Hall,	1,982.11	112,804.33
Total amount of expenses, carried forward, . . .		<u>\$1,443,978.17</u>

*General Statement of Receipts and Disbursements
for the year ending*

INCOME (continued).

Amount brought forward, \$1,247,074.86

Sundries.

William Pennoyer Annuity,	\$142.65	
Asa Gray's copyrights,	1,423.95	
Matthews Scholarships ($\frac{1}{2}$ net rents of Hall),	5,652.57	
Trustees of Edward Hopkins,	213.17	
Sale of grass, wood, old material, &c.,	4,660.08	
Sale of old examination papers,	329.03	
Sale of tickets to Commencement Dinner,	697.00	
Sale of tickets to Divinity School Alumni Dinner,	45.00	
Sale of books, pamphlets, catalogues, &c.,	3,881.04	
Sale of geographical models,	71.40	
Board of horses, cattle, &c., at Bussey Institution,	4,526.80	
Repayment of advances for microscopes,	2,105.25	
Repayments of loans by Scientific School students,	141.46	
Repayment of part of cost of publishing Observa- tory annals,	580.27	
Sundry repayments,	415.25	
Laboratory instruction to Dental students at Medical School,	3,900.00	
Laboratory instruction to Medical and Veterinary students at Dental School,	700.00	
Subscriptions to Veterinary Hospital,	680.00	
Use of Library by resident graduates and others,	115.00	
Use of lockers in Hemenway Gymnasium,	3,865.50	
Use of Gymnasium by graduates,	20.00	
Use of Buildings (not Univ. Houses and Lands),	5,485.00	
Use of telephone,	5.42	
Fees for admission and condition examinations,	2,783.00	
Fees in Infirmary, Dental School,	5,867.24	
Fees from Veterinary Hospital and Forge,	13,196.35	
Fees from Free Clinic,	244.00	
Fees from Divinity Summer School,	810.00	
Laboratory fees,	20,700.69	
Fees for Summer Courses,	\$18,710.17	
Other receipts from Summer Courses,	353.08	19,063.25
Fees for use of camp at Martha's Vineyard,	352.67	
Fines,	306.00	
Trustee of C. L. Hancock real estate,	1,066.19	
Transfer of salary between departments,	48.15	
Taxes repaid, with costs and interest, by City of Cambridge (not Univ. Houses and Lands),	3,641.82	
Insurance,	21,862.26	129,597.46
Sundry Gifts for immediate use (see page 28),		475,295.32
Total amount of income, carried forward,		\$1,851,967.64

*of the Treasurer of Harvard College,
July 31, 1900.*

INVESTMENTS AND SUNDRY PAYMENTS.

Amount brought forward,	\$1,443,978.17	
\$48,500 Central Vermont R'y Co. 4's (Price Greenleaf),	\$37,845.00	
80 Central Vermont R'y Co. scrip (Price Greenleaf)	6.28	
100,000 Chicago Junction Railways and Union Stock Yards Co. 4's,	98,500.00	
100,000 Long Island Railway Co. Unified M. 4's, . .	93,500.00	
100,000 New York Central & Hudson River R. R. Co. (L. S. & M. S. Coll.) 3½'s,	100,000.00	
200,000 New York, Ontario & Western R. R. Co. Refunding M. 4's,	210,750.00	
100,000 Baltimore & Ohio R. R. Co. (So. Western Div.) 1st M. 3½'s,	89,750.00	
619,000 Chicago, Burlington & Quincy R. R. Co. 3½'s,	638,581.25	
200,000 American Tel. & Tel. Co. 4's,	196,000.00	
100,000 Bangor & Aroostook R. R. Co. (Van Buren Exten.) 1st M. 5's,	110,000.00	
100,000 Second Avenue Railroad Co. 1st Cons. M. 5's,	118,750.00	
100,000 Third Avenue Railroad Co. 1st Cons. M. 4's,	104,000.00	
803 shares N. Y. Central & Hudson River R. R.,	80,800.00	
2,000 " Pennsylvania R. R.,	139,075.00	
4 " Pacific Mills,	4,000.00	
17 " Merrimack Manufacturing Co.,	1,700.00	
1,000 " Essex Street Trust (balance 80% paid),	30,000.00	
2,000 " Barristers Hall Trust (10% additional paid),	20,000.00	
2,000 shares Paddock Building Trust (55% paid),	110,000.00	
100 " Paddock Building Trust (55% paid) (Price Greenleaf),	5,500.00	
64 shares Boston Elevated Railway Co. (balance 50% paid) (Henry C. Warren Fund),	3,200.00	
15 shares Boston Real Estate Trust (Price Greenleaf),	20,708.75	
84 shares Central Vermont Railway Co. stock) (Price Greenleaf),	428.72	2,152,590.00
Accrued interest and expenses on bonds bought,	8,672.72	
Estate Nos. 20 and 21 Charlestown St., Boston,	50,565.65	
Invested in notes of manufacturing companies, &c.,	\$680,000.00	
Less mortgages and notes paid off,	580,500.00	99,500.00
Paid Baring Brothers & Co. in account,	\$214.71	
Less expenses, . . . . .	.77	213.94
Amount carried forward,		\$3,755,520.48

*General Statement of Receipts and Disbursements
for the year ending*

Amount brought forward, \$1,851,967.64

RECEIPTS EXCLUSIVE OF INCOME.

GIFTS FOR CAPITAL ACCOUNT.

Arnold Arboretum Fund (additional),	\$16,000.00	
Robert C. Billings Fund,	85,000.00	
Scholarship of the Class of 1883 Fund,	5,000.00	
Class Subscription Fund (additional),	45.00	
Cotting Gift,	3,029.59	
Lucy Ellis Fund,	50,942.47	
Harvard Ellis Fund (additional),	195.00	
Asa Gray Memorial Fund (additional),	1,575.00	
Herbarium Fund (additional),	500.00	
William Hilton Scholarship Fund (additional),	5,053.67	
Scholarship of the Class of 1856 Fund (additional),	1,000.00	
Francis James Child Memorial Fund (additional),	60.00	
Henry Lee Professorship Fund,	50,000.00	
Susan B. Lyman Fund (additional),	1,809.78	
Henry L. Pierce Residuary Bequest (additional),	15,000.00	
Professorship of Hygiene Fund (additional),	67.50	
School of Comparative Medicine Fund (additional),	1,970.00	
Ralph H. Shepard Fund,	10,000.00	
Swift Scholarship Fund (additional),	1,000.00	
Alexander Wheelock Thayer Fund (additional),	7,758.80	
Philip Washburn Prize Fund,	2,000.00	
Charles Wilder Professorship Fund,	15,000.00	
Calvin and Lucy Ellis Aid Fund (additional),	60,400.00	
Calvin Ellis Fund (additional),	26,400.00	359,806.31

SALES, ETC.

\$200,000 United States 5's,	\$224,062.50
100,000 " " 4's,	133,937.50
9,000 City of Boston 4's,	9,765.00
80,000 Walter Baker & Co. Limited 4½'s (paid off at par),	80,000.00
3,000 Chicago Burl. & Northern R. R. 5's (paid off at 105),	3,150.00
32,000 Burl. & Mo. River (Neb.) R. R. 6's (paid off at par),	32,000.00
500,000 Chicago, Burl. & Quincy R. R. 7's,	560,000.00
12,000 Fort Scott, South Eastern & Memphis R. R. 1st M. 7's (paid off at 105),	12,600.00
10,000 Fremont, Elkhorn & Mo. Valley R. R. 6's,	14,000.00
5,000 Kansas & Missouri R. R. 5's,	4,250.00

Amounts carried forward, . . . \$1,073,765.00 **\$2,211,773.95**

*of the Treasurer of Harvard College,
July 31, 1900.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, \$3,755,520.48

Property received on account of the bequests of **Calvin Ellis**, one undivided half of the following estates :—

Estate No. 21 Wharf St., Boston,	\$3,300.00	
" Nos. 44 and 45 India St., Boston,	6,850.00	
" No. 46 India St., Boston,	5,750.00	
" " 52 " "	6,600.00	
" " 26 " Wharf "	3,900.00	26,400.00

Property received on account of the residuary bequest of Miss **Lucy Ellis**.

Estate No. 480 Beacon St., Boston,	\$34,000.00	
One undivided half of the following estates :—		
Estate No. 21 Wharf St., Boston,	3,300.00	
" Nos. 44 and 45 India St., Boston,	6,850.00	
" No. 46 India St., Boston,	5,750.00	
" " 52 " "	6,600.00	
" " 26 " Wharf "	3,900.00	60,400.00

Property received for the Scholarship of the **Class of 1883 Fund**.

\$5,000 Brookline Gas Light Co. Gen'l M. 5's of 1913, 5,000.00

Payments on account of **Charles L. Hancock** bequest.

Amount, paid to the College through an error, repaid to rightful claimants,	\$777.90	
Legal expenses	4.00	781.90

Insurance, Estate No. 52 India St.,	\$166.32	
Taxes, Muddy River lot, Woodland Hill Estate, . . .	681.69	
Expenses in connection with lease of Ward's (Bumkin) Island,	501.00	
Legal services in connection with the wills of Calvin and Lucy Ellis ,	1,526.42	2,825.43

Amount carried forward, \$3,850,927.81

*General Statement of Receipts and Disbursements
for the year ending*

RECEIPTS EXCLUSIVE OF INCOME (*continued*).

Amounts brought forward, . . .		\$1,078,765.00	\$2,211,773.96
\$43,500 Consolidated R. R. of Vermont 5's (exchanged for \$43,500 Central Vermont R'y Co. 4's valued at \$37,845, 34 shares Central Vermont R'y Co. stock valued at \$428.72 and \$80 in scrip of the Central Vermont R'y Co. valued at \$6.28), . . .	38,280.00		
80 scrip of the Central Vermont R'y Co., . . .	6.28		
100,000 Chicago Junction Railways & Union Stock Yards Income 5's (paid off at par), . . .	100,000.00		
50,000 Eastern R. R. 6's,	58,000.00		
15 shares Boston Real Estate Trust,	20,703.75		
40 " Vermont & Massachusetts R. R., . . .	6,788.95		
30 " Boston & Providence, R. R.,	8,991.90		
20 " Mass. Mutual Fire Insurance Co., . . .	2,210.00		
1/4 share Chicago, Burl. & Quincy R. R., . . .	65.23		
Land in Brighton, Mass., taken by the Metropolitan Park Commission	30,000.00		
Land in Dedham, Mass., taken by the New York, New Haven & Hartford R. R. Co.,	50.00		
Lots 53 and 55 Fourth St., Chelsea, Mass.	300.00	1,839,161.11	
SUNDRIES.			
Dining Hall Association, to reduce debt,	\$1,530.00		
Randall Hall Association, to reduce debt,	600.00		
Premiums on Bonds, repaid in part,	24,797.22		
Advances to accrued interest and expenses on bonds, repaid,	11,648.38		
Scholarship and Beneficiary money, returned by Beneficiaries,	306.85		
Advances for University Lands, repaid,	30,000.00		
University Houses and Lands, repaid to capital, . . .	2,111.17		
Lease of Ward's Island for 500 years,	16,000.00		
Special Dividend on Pacific Mills Stock,	4,000.00	90,958.63	
Bursar's Sundry Accounts.			
Receipts during the year,		487,721.39	
Balance, August 1, 1899.			
Cash in Suffolk National Bank,	\$11,912.91		
" National Union Bank,	453,820.35		
" New England Trust Co.,	25,215.97		
" hands of Charles F. Mason, Bursar, . . .	19,855.74		
Term Bills due in October, 1899,	206,441.71		
" " overdue,	8,554.81	725,800.99	
Total,		\$4,605,415.96	

*of the Treasurer of Harvard College,
July 31, 1900.*

INVESTMENTS AND SUNDRY PAYMENTS (*continued*).

Amount brought forward, \$3,850,927.81

Bursar's Sundry Accounts.

Payments during the year.

On account of Harvard Dining Association, .	\$187,483.10	
" " Randall Hall Association, . .	74,393.41	
On sundry accounts,	197,764.08	459,640.59

Balance, July 31, 1900.

Cash in Suffolk National Bank,	\$9,526.65	
" National Union Bank,	157,002.63	
" Old Boston National Bank,	69,748.60	
" New England Trust Co.,	3,615.26	
" hands of Charles F. Mason, Bursar, . .	16,980.44	
Term Bills due October, 1900,	229,150.09	
" " overdue,	8,823.89	494,847.56
Total,		\$4,805,415.96

The following Account exhibits the State of the Property, as entered upon the Treasurer's Books, July 31, 1900.

Separate Investments, as stated in detail on pages 3, 4 and 5 of this report, consisting of

Railroad Bonds,	\$307,168.87	
Sundry Bonds,	848,735.27	
Railroad Stocks,	469,903.96	
Sundry Stocks,	88,027.25	
University Houses and Lands,	487,162.84	
Other Real Estate,	523,505.48	
Sundries,	28,569.44	
Cash in New England Trust Co.,	3,615.26	\$2,106,688.37

And "General Investments," as follows:—

Mortgages and Notes.

Mortgages,	\$238,000.00	
Boott Cotton Mills' Note,	100,000.00	
Cocheco Manufacturing Co.'s Note,	150,000.00	
Manchester Mills' Note,	50,000.00	
Massachusetts Cotton Mills' Notes,	100,000.00	
Merchants & Miners Transportation Co.'s Notes,	80,000.00	
Merrimack Manufacturing Co.'s Notes,	100,000.00	
Pacific Mills' Note,	100,000.00	918,000.00

* **United States Bonds.**

400,000 United States 4's of 1925,	467,690.80
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Railroad Bonds.

\$365,200 Burl. & Mo. R. in Nebr. non ex. 6's, . .	\$376,148.10
84,000 Fort Scott, So. E. & Mem., 1st M. 7's, .	84,808.69
343,000 Eastern, 1st M. 6's of 1906,	368,478.46
£19,600 Eastern " " Sterling of 1906,	95,888.40
\$644,000 Chic., Burl. & Quincy 3½'s of 1949, . .	663,383.42
100,000 Chic. & No. W. (Madison Extension)	
1st M. 7's of 1911,	118,588.98
100,000 Minneapolis Union 1st M. 5's of 1923, .	102,929.66
400,000 Union Pacific 1st M. & L. G. 4's of 1947, .	353,114.75
100,000 Chicago, Rock Island & Pacific 4's of 1988,	106,921.18
100,000 Chicago Terminal Transfer 1st M. 4's of 1947,	95,772.50
100,000 Baltimore & Ohio 4's of 1948,	96,625.00
100,000 Baltimore & Ohio (S. W. Division) 1st M. 3½'s of 1925,	89,750.00
200,000 Long Island Unified M. 4's of 1949, . .	187,000.00
200,000 New York Central & H. R. (L. S. & M. S. Coll.) 3½'s of 1998,	202,464.70
200,000 New York, Ontario & Western Ref. M. 4's of 1992,	210,659.80

Amounts carried forward, . . . \$2,151,533.59 \$2,487,379.17

* These \$400,000 of United States 4's of 1925 have, from Dec. 22, 1899, been lent to the National Shawmut Bank, which pays to the College, for the use, interest at the rate of two per cent. a year, in addition to the interest of four per cent. received by the bank from the bonds, thus making the income of the College from the bonds equal to six per cent. upon their par value.

Amounts brought forward, . . .		\$3,151,523.59	\$3,487,379.17
\$100,000 Bangor & Aroostook (Van Buren Extension) 1st M. 5's of 1943,	109,883.76		
200,000 Metropolitan West Side Elevated 4's of 1938,	192,746.25		
100,000 Second Avenue (N. Y.) Consol. M. 5's of 1948,	118,750.00		
100,000 Third Avenue (N. Y.) 1st Consol. M. 4's of 2000,	104,000.00	3,676,903.60	
Sundry Bonds.			
\$200,000 American Tel. & Tel. Co. 4's of 1929, .	\$196,000.00		
200,000 American Bell Tel. Co. 4's of 1908, . .	204,066.66		
100,000 Metrop. Tel. & Tel. Co. 1st M. 5's of 1918, .	99,500.00		
100,000 New England Tel. & Tel. Co. 6's of 1906, .	101,781.24		
100,000 New England Tel. & Tel. Co. 5's of 1916, .	115,058.82		
250,000 Chicago Junction Railways and Union Stock Yards Coll. Trust 5's of 1915, .	250,302.20		
100,000 Chicago Junction Railways and Union Stock Yards 4's of 1940,	98,500.00		
100,000 Broadway Realty Co. Purchase money 1st M. 5's of 1926,	106,973.68		
240,000 Walter Baker & Co. Ltd. 4½'s of 1903, .	240,000.00	1,412,182.60	
Railroad Stocks.			
1562 shares Chicago, Burl. & Quincy R. R., . .	\$149,319.07		
2308 " N. Y. Central & Hud. River R. R., .	234,987.50		
2000 " Pennsylvania R. R.,	129,075.00	518,881.57	
Manufacturing Stocks.			
12 shares Amoskeag Manufacturing Co., . . .	\$3,654.00		
187 " Merrimack " " . . .	18,700.00		
24 " Pacific Mills,	16,668.29	39,022.29	
Building Trusts Stocks.			
1000 shares Essex Street Trust,	\$100,000.00		
2000 " Barristers Hall Trust (60% paid), . .	120,000.00		
2000 " Paddock Building Trust (55% paid), .	110,000.00	380,000.00	
Real Estate.			
Amory Estate, Franklin Street, Boston, . . .	\$165,615.81		
Webb Estate, Washington Street, Boston, . . .	164,604.79		
Gray Estate, Washington Street, Boston, . . .	884,231.77		
Adams Estate, Washington Street, Boston, . . .	250,000.00		
Lowell Estate, Washington Street, Boston, . . .	464,368.91		
Hayward Estate, Washington Street, Boston, . .	578,361.88		
Townsend Estate, Hawkins Street, Boston, . . .	44,569.49		
Estate in Charlestown St., Boston,	50,565.65		
Reversion of Buildings in Brattle Street, Boston, .	1,015.00	2,553,833.80	
Amount carried forward,		\$12,012,202.58	

Amount brought forward,		\$12,012,202.53	
Sundries.			
Advances to	Bussey Trust,	\$29,785.51	
" "	Calvin & Lucy Ellis Real Estate,	166.32	
" "	School of Veterinary Medicine,	24,406.01	
" "	Peabody Museum of American Archaeology and Ethnology,	639.01	
" "	Gray Herbarium,	25.41	
" "	Botanic Department,	15,549.39	
" "	Dining Hall Association,	14,001.50	
" "	Randall Hall Association,	22,875.71	
" "	Sundry Accounts,	1,076.25	
		<hr/>	
		\$108,525.11	
	Baring Brothers & Co.,	2,488.25	
	Term bills due in October, 1900,	229,150.09	
" "	overdue,	8,823.89	348,987.34
		<hr/>	
Cash in	Suffolk National Bank,	\$9,526.65	
" "	National Union Bank,	157,002.63	
" "	hands of Charles F. Mason, Bursar,	16,980.44	
" "	Old Boston National Bank,	69,748.80	253,258.52
		<hr/>	
Total,			\$12,614,448.19

The foregoing Property represents the following Funds and Balances, and is answerable for the same.

Principal, Aug. 1, 1899.	UNIVERSITY FUNDS.	Principal, July 31, 1900.
\$24,971.16	Stock Account (so called),	
141,638.74	Ins. and Guaranty Fund (so called), .	\$129,940.39
15,750.00	Israel Munson Fund,	15,750.00
16,871.63	Leonard Jarvis Fund,	16,871.63
25,000.00	John C Gray Fund,	25,000.00
115,966.56	George B. Dorr Fund,	115,966.56
113,817.44	Francis E. Parker Fund,	113,817.44
5,000.00	Stanton Blake Fund,	5,000.00
4,771.33	Charlotte F Blanchard Fund, .	4,771.33
10,000.00	Joseph Lee Fund,	10,000.00
100,000.00	William F Weld Fund,	100,000.00
10,000.00	Henry P Kidder Fund,	10,000.00
48,458.50	George Draper Fund,	48,458.50
46,913.13	Isaac Sweetser Fund,	46,913.13
5,000.00	George Baxter Hyde Fund, . .	5,000.00
101,030.49	Harvard Ellis Fund,	101,225.49
5,250.00	Samuel D. Bradford Fund, . . .	5,250.00
	Robert C. Billings Fund,	85,000.00
22,000.00	John Cowdin Fund,	22,000.00
23,370.03	John L. Russell Fund,	23,370.03
81,950.54	Henry T Morgan Fund,	81,950.54
10,000.00	Theodore Lyman Fund,	10,000.00
12,500.00	John W. Carter Fund,	12,500.00
20,571.18	Gore Fund,	20,571.18
52,024.37	Henry L. Pierce Fund,	51,686.17
455,000.00	Henry L. Pierce Residuary Bequest,	470,000.00
4,950.00	Andrew Bigelow Fund,	4,950.00
5,000.00	Seth Turner Fund,	5,000.00
30,000.00	William Perkins Fund,	30,000.00
20,000.00	Walter Hastings Fund,	20,000.00
63,528.53	President's Fund	63,515.48
154.54	Thomas Cotton Fund,	154.54
342,680.32	Retiring Allowance Fund,	354,056.53
48,167.68	William Hayes Fogg Fund, . .	47,555.65
5,256.85	John W. and Belinda L. Randall Fund,	5,296.57
20,610.79	J. W. and Belinda L. Randall Construction Fund,	
20,504.04	Gifts for Phillips Brooks House, .	50.00
55,564.64	John Parker Fellowships,	55,298.40
12,412.76	Robert Treat Paine Fellowship, .	12,228.79
10,816.31	Harris Fellowship,	10,809.52
\$2,107,501.56	. . . Amounts carried forward,	\$2,139,957.87

Principal,
Aug. 1, 1899.

Principal, July 31, 1900.

\$2,107,501.56	. . . Amounts brought forward, . . .	\$2,139,957.87	
10,863.57	John Thornton Kirkland Fellows'p,	10,808.97	
11,307.21	James Walker Fellowship, . . .	11,322.81	
32,182.73	Rogers Fellowships,	32,525.28	
11,292.63	Henry Lee Memorial Fellowship,	11,357.59	
10,549.38	Ozias Goodwin Memorial Fellows'p,	10,580.41	
21,465.75	Whiting Fellowships	21,744.60	
	South End House Fellowship (bal.),	400.00	
11,170.39	H. B. Rogers Memorial Fellows'p,	11,004.74	
11,563.75	John Tyndall Scholarship, .	11,341.07	
5,277.15	Francis H. Cummings Scholars'p,	5,317.78	
17,745.48	William Hilton Scholarships, . .	23,100.77	
39,255.90	Joseph Eveleth Fund,	39,579.30	
1,610.30	Frank Bolles Memorial Fund, . .	1,625.20	
429,876.87	Edward Austin Fund,	441,399.94	
6,034.42	Alexander Wheelock Thayer Fund,	13,973.22	
45,019.10	Calvin and Lucy Ellis Aid Fund,	105,503.59	
5,768.30	Ralph Hamilton Shepard Memo- rial Fund,	5,772.99	
	Ralph H. Shepard Fund, . . .	10,057.00	
7,065.97	George B. Sohler Prize Fund, . .	7,101.11	
3,000.87	Sumner Prize Fund,	3,037.72	
2,377.32	John O. Sargent Prize Fund, . .	2,485.71	
3,485.38	Robert N. Toppan Prize Fund, .	3,494.30	
1,279.84	James Gordon Bennett Prize F'd,	1,338.21	
100.00	Dante Prizes (balance),	100.00	
9,386.01	Lectures on Political Economy Fund,	9,464.01	
5,437.68	Ingersoll Lecture Fund,	5,386.20	
20,508.43	William Belden Noble Lectures,	20,834.37	
6,266.34	Gifts for Semitic Collection (balance),	19,185.37	
61.57	" " " Library, "	1,587.87	
1,728.64	Gifts for Collections for a Germanic Museum (balance),	2,659.43	\$2,984,047.38

COLLEGE FUNDS.

27,748.64	Alford Professorship,	\$27,748.64	
28,337.40	Boylston "	28,337.40	
21,619.50	Eliot "	21,619.50	
10,000.00	Eliot "(Jon. Phillips' gift),	10,000.00	
3,500.01	Erving "	3,500.01	
35,990.99	Fisher "	35,990.99	
21,451.26	Asa Gray "	21,569.43	
20,217.08	Hersey "	20,217.08	
21,744.18	Hersey " (Thomas Lee's gift),	21,744.18	
3,747.33	Hollis " (Mathematics), . . .	3,747.33	
34,517.60	Hollis " (Divinity),	34,517.60	
\$3,068,056.53	. . . Amounts carried forward, . . .	\$228,992.16	\$3,984,047.38

Principal,
Aug. 1, 1899.

Principal, July 31, 1900.

\$3,068,056.53	Amounts brought forward, . . .	\$228,992.16	\$2,984,047.88
	Henry Lee Professorship,	50,617.47	
43,062.93	McLean "	43,062.93	
21,000.00	Perkins "	21,000.00	
25,020.19	Plummer "	25,020.19	
52,500.00	Pope Professorship,	52,500.00	
159,419.97	Professorship of Hygiene,	164,731.35	
56,441.25	Rumford Professorship,	56,441.25	
23,139.83	Smith "	23,139.83	
193,010.28	Gurney Fund,	194,561.54	
16,240.38	Fund for Permanent Tutors,	16,240.38	
15,796.97	Lee Fund for Reading,	15,796.97	
150,252.54	Class Subscription Fund, . . .	150,297.54	
3,238.13	Paul Dudley Fund for Lectures,	3,285.78	
31,500.00	Jonathan Phillips Fund,	31,500.00	
1,050.00	John A. Blanchard "	1,050.00	
7,796.32	John W P Abbot "	8,151.81	
13,867.43	Daniel H. Pierce "	13,980.66	
6,230.00	Daniel Austin "	6,280.00	
2,923.81	Schol. & Benef. money returned (bal.).	1,925.66	
343.46	Henry Flynt's Bequest,	359.10	
3,564.76	Abbot Scholarship,	3,627.32	
1,647.24	Alford "	1,722.34	
5,365.02	Bartlett "	5,443.00	
5,667.20	Bassett "	5,655.62	
12,583.51	Bigelow "	12,824.02	
1,917.50	Borden "	2,004.92	
111,633.90	Bowditch "	111,943.37	
1,956.00	Bright " (balance), . .	2,056.00	
3,708.49	Browne "	3,727.57	
5,048.55	Morey Willard Buckminster Sch.,	5,078.78	
31,856.01	Burr Scholarship,	32,175.30	
6,102.25	Ruluff S. Choate Scholarship, . .	6,080.50	
7,973.48	Class of 1802 Scholarship, . . .	8,037.05	
3,138.31	" 1814 "	3,114.74	
6,275.07	" 1815 "(Kirkland),	6,427.87	
4,338.63	" 1817 "	4,386.49	
3,438.12	" 1828 "	3,494.89	
4,689.26	" 1835 "	4,753.08	
4,072.56	" 1841 "	4,058.29	
4,961.41	" 1852 "(Dana),	4,987.63	
10,000.00	" 1856 "	15,254.67	
4,573.94	" 1867 "	4,582.51	
	" 1883 "	5,000.00	
11,445.95	Crowninshield "	11,634.55	
600.00	W. H. Cudworth " (balance), . .	600.00	
5,585.82	George & Martha Derby Sch.,	5,507.20	
4,783.26	Julius Dexter Scholarship, . . .	4,901.36	
\$4,157,866.26	Amounts carried forward, . . .	\$1,887,913.69	\$2,984,047.88

Principal, Aug. 1, 1899.		Principal July 31, 1900.	
\$4,157,866.26	Amounts brought forward, . . .	\$1,387,913.69	\$2,984,047.36
5,458.63	W. S. Eliot Scholarship,	5,540.90	
2,072.23	Fall River "	2,100.06	
6,099.27	Farrar "	6,210.73	
10,973.60	Richard Augustine Gambrill Scholarship,	11,074.02	
7,000.00	Charles Haven Goodwin Sch.,	7,013.51	
4,064.81	Benjamin D. Greene Scholarship,	4,100.17	
200.00	Price Greenleaf Sch. (balance),	200.00	
10,325.14	Ebenezer Rockwood Hoar Sch.,	10,395.96	
6,131.66	Levina Hoar Scholarship,	6,161.28	
12,713.34	Hodges "	13,093.06	
5,962.44	Hollis "	6,034.31	
10,069.50	G. E. Lowell "	10,155.31	
2,374.38	Matthews " (balance),	3,776.95	
5,754.18	Merrick "	5,883.24	
8,018.85	Morey "	8,084.52	
5,543.28	Lady Mowlson "	5,596.04	
5,386.26	Howard Gardner Nichols Sch.,	5,431.86	
4,578.13	Lucy Osgood Scholarship, . . .	4,786.89	
6,292.64	Pennoyer "	6,274.56	
4,119.51	Perkins "	4,157.38	
1,435.96	Wendell Phillips Mem'l Scholars'p, Ricardo Prize Scholarship (balance),	1,451.44	350.00
1,318.00	Rodger Scholarship,	1,378.10	
3,393.49	Henry B. Rogers Scholarship, .	3,398.21	
5,467.64	Edward Russell "	5,516.39	
5,320.97	Sales Scholarship,	5,430.29	
4,476.26	Saltonstall "	4,530.37	
5,083.75	Leverett Saltonstall Scholarship,	5,115.58	
6,854.98	Mary Saltonstall Scholarship, . .	6,867.57	
3,232.87	Sever Scholarship,	3,280.29	
10,515.14	Sewall "	10,594.62	
48,103.83	Shattuck "	48,197.37	
5,911.02	Slade "	5,930.56	
4,279.61	Story "	4,374.77	
2,385.34	Stoughton Scholarship,	2,435.09	
1,024.88	Swift "	2,084.94	
75,890.15	Thayer "	76,350.73	
4,035.54	Gorham Thomas Scholarship, . .	4,119.58	
7,342.73	Toppan "	7,377.57	
24,781.65	Townsend "	24,911.71	
4,365.06	Walcott "	4,497.44	
8,091.80	Christopher M. Weld Scholars'p,	8,160.80	
5,143.44	Jacob Wendell Scholarship, . .	5,177.96	
11,122.45	Whiting "	11,162.95	
1,333.34	Exhibition,	1,333.34	
1,969.66	Palfrey Exhibition,	1,979.49	
\$4,533,883.67	Amounts carried forward, . . .	\$1,769,992.17	\$2,984,047.36

Principal, Aug. 1, 1899.		Principal, July 31, 1900.	
\$4,583,883.67	. . Amounts brought forward, . . .	\$1,769,992.17	\$2,984,047.88
10,483.95	Henry B. Humphrey Fund, . .	10,637.02	
1,945.44	Robert Keyne Fund, (1659)	2,084.13	
1,254.45	William Brattle " (1717)	1,311.63	
366.12	Henry Gibbs " (1723)	382.81	
352.17	Ephraim Flynt " (1723)	368.22	
816.79	Thomas Danforth Fund, . . (1724)	854.04	
171.51	Anne Mills Fund, (1725)	179.35	
612.61	Thomas Fitch " (1737)	640.56	
220.52	Benjamin Wadsworth Fund, (1737)	230.60	
326.67	John Ellery " (1738)	341.58	
123.49	Henry Flynt " (1780)	128.05	
163.36	Joseph Sewall " (1765)	170.79	
457.41	Nathaniel Appleton " (1772)	478.36	
294.08	Edward Holyoke " (1743)	307.44	
803.00	Mary Lindall " (1812)	839.62	
1,325.00	Samuel Ward Fund,	16,031.33	
2,425.34	John Glover "	2,535.92	
11,155.10	Quincy Tufts "	11,155.10	
5,448.73	Day "	5,448.73	
10,534.61	Munroe "	10,812.36	
3,028.69	Susan B. Lyman Fund,	4,976.59	
100,984.05	Unknown Memorial Fund,	101,385.25	
4,283.54	Dr. A. P. Peabody Memorial Fund,	4,270.89	
5,707.65	Price Greenleaf Aid (balance), .	6,220.52	
3,777.31	Boylston Prizes for Elocution, . .	3,694.54	
14,979.02	Bowdoin Prizes for Dissertations,	14,662.06	
5,076.52	Coolidge Debating Prizes,	5,108.03	
1,052.41	Sales Prize,	1,055.38	
	Philip Washburn Prize,	2,068.40	
1,639.79	Hopkins Gift for Deturs (bal.),	1,697.35	
949.59	Chauncey Wright Fund,	976.93	
50,000.00	Increase S. Wheeler Fund, . .	50,000.00	
1,033.57	Fund for Religious Services,	1,033.57	
15,404.83	John E. Thayer Fund,	16,107.30	
7,105.12	Classical Publ. F'd of Class of 1856,	6,584.16	
39,780.00	Botanic Department Fund,	39,780.00	
66,382.31	Lowell Fund for a Botanic Garden,	66,382.31	
20,155.91	Herbarium Fund,	20,655.91	
31,283.14	Asa Gray Memorial Fund,	32,511.00	
75,000.00	Physical Laboratory Endowment, . .	75,000.00	
10,067.88	Henry Warren Torrey Fund, . .	10,000.00	
1,125.67	Elizabeth Torrey Bequest,	1,177.02	
11,015.62	Francis James Child Mem. Fund,	11,074.65	
5,973.17	Cyrus M. Warren Fund,	6,222.24	
8,109.40	Joseph Lovering "	8,330.37	
1,950.35	Jefferson Physical Lab'y (balance),	1,846.08	
4,361.87	George William Sawin Fund, . .	4,386.65	
\$5,073,290.38	. . Amounts carried forward, . . .	\$2,332,036.91	\$2,984,047.88

Principal, Aug. 1, 1899.		Principal, July 31, 1900.	
\$5,078,290.38	Amounts brought forward, . . .	\$2,332,036.91	\$2,984,047.38
15,283.53	Harvard Oriental Series Fund, . . .	15,000.00	
110,960.32	Henry C. Warren " . . .	118,978.61	
12,252.45	Josiah Stickney " . . .	12,811.14	
100,382.48	Architecture Building Endowment Fund,	100,000.00	
3,280.12	Gifts for Sanskrit Department (bal.),	3,663.20	
1,300.01	Sundry Gifts (unexpended balances),	1,668.51	
362.26	Gifts for Classical Library (balance),	523.25	
393.25	" Historical " "	159.72	
3,500.00	Gift for cases and catalogues at the Botanic Garden (balance),	2,490.46	
2,150.00	Gifts for College Salaries (balance), .	950.00	
	Gift for Physical research " "	250.00	
	Gifts for Music 7 " "	100.00	2,588,681.80

LIBRARY FUNDS.

100,000.00	Eben Wright Fund,	\$100,000.00	
26,022.88	Constantius "	25,951.35	
500.00	Jarvis "	500.00	
11,925.34	Daniel Treadwell Fund,	11,925.34	
10,613.50	Subscription for Library (1859), . .	10,614.72	
2,138.30	Bowditch Fund,	2,159.29	
131.56	Bright Fund (balance),	123.51	
27,727.33	Edwin Conant Fund,	27,788.06	
5,333.49	Denny "	5,347.88	
5,279.94	Farrar "	5,310.70	
3,149.47	Haven "	3,161.68	
10,150.80	Hayes "	10,098.62	
5,294.92	Hayward "	5,274.99	
2,375.69	Hollis "	2,371.50	
2,164.44	Homer "	2,153.47	
5,293.34	Lane "	5,332.42	
25,075.92	Lowell "	25,574.78	
60,638.85	Minot "	60,876.55	
7,196.74	Lucy Osgood "	7,196.02	
7,076.27	Mary Osgood "	7,071.75	
4,007.69	Sales "	3,951.19	
5,360.19	Salisbury "	5,381.04	
20,122.98	Sever "	20,090.31	
3,992.40	Shapleigh "	4,012.04	
37,565.89	Sumner "	37,568.47	
5,087.53	Kenneth Matheson Taylor Fund,	5,087.93	
5,149.38	Tucker "	5,223.02	
5,334.35	Ward "	5,337.73	
15,895.19	Walker "	15,888.98	
282.17	Waterston Gift (balance),	270.03	
\$5,748,991.35	Amounts carried forward, . . .	\$421,593.27	\$5,567,679.18

Principal, Aug. 1, 1899.		Principal, July 31, 1900.
\$5,743,991.35	. . Amounts brought forward, . . .	\$421,593.27 \$5,567,679.18
10,159.24	J. Huntington Wolcott Fund, .	10,127.65
2,063.40	J. Randolph Coolidge Gift, .	64.04
615.09	Sundry Gifts, etc.(unexpended balc.),	667.82 432,452.78

DIVINITY SCHOOL FUNDS.

28,638.58	Divinity School (balance),	\$27,995.74	
37,583.74	Bussey Professorship,	37,583.74	
16,015.81	Parkman "	16,015.81	
6,008.43	Hancock "	6,008.43	
52,845.73	Winn Professorship of Ecclesiastical History	53,345.73	
42,282.67	Frothingham Professorship, . . .	44,210.77	
20,280.38	Dexter Lectureship,	20,280.38	
9,184.69	Henry Lienow Fund,	9,184.69	
5,250.00	Mary P Townsend Fund, . . .	5,250.00	
2,100.00	Winthrop Ward " . . .	2,100.00	
1,050.00	Samuel Hoar " . . .	1,050.00	
1,050.00	Abraham W Fuller " . . .	1,050.00	
1,050.00	Caroline Merriam " . . .	1,050.00	
7,875.00	Joseph Baker " . . .	7,875.00	
40,000.00	Thomas Tileston of New York Endowment,	40,000.00	
10,000.00	Henry P. Kidder Fund,	10,000.00	
17,000.00	Oliver Ames "	17,000.00	
1,000.00	Abby Crocker Richmond Fund,	1,000.00	
71,427.02	New Endowment 879)	71,427.02	
1,000.00	John L. Russell Fund,	1,000.00	
10,000.00	William B Spooner Fund, . . .	10,000.00	
5,000.00	Edwin Conant " . . .	5,000.00	
911.34	Lewis Gould " . . .	911.34	
2,177.95	Joshua Clapp " . . .	2,177.95	
525.00	Hannah C. Andrews " . . .	525.00	
1,000.00	Adams Ayer " . . .	1,000.00	
890.00	Daniel Austin " . . .	890.00	
5,000.00	Haven " . . .	5,000.00	
632.24	Louisa J. Hall " . . .	658.16	
3,372.53	Rushton Dashwood Burr Fund,	3,526.34	
1,973.35	John W. Quinby Fund,	440.14	
14,452.24	Jackson Foundation,	14,471.25	
5,263.54	Thomas Cary Scholarships, . . .	5,223.58	
2,629.53	George Chapman " . . .	2,649.46	
4,354.24	Joshua Clapp " . . .	4,372.78	
5,020.23	J Henry Kendall " . . .	5,249.14	
3,374.70	Nancy Kendall " . . .	3,388.60	
13,001.58	Abner W Buttrick Fund, . . .	12,964.47	
1,050.00	William Pomroy " . . .	1,050.00	
4,320.75	Beneficiary money returned (balance),	4,517.79 457,443.31	
\$6,213,420.35	. . Amounts carried forward,	\$6,457,575.27	

Principal,
Aug. 1, 1899.

Principal, July 31, 1900.

\$6,218,420.85	\$6,457,575.37
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LAW SCHOOL FUNDS.

97,805.88 Law School (balance),	\$180,175.54
15,750.00 Dane Professorship,	15,750.00
23,979.82 Bussey "	23,979.82
8,840.81 Royall "	8,840.81
94,994.97 Weld "	94,994.97
65,604.10 Bemis "	65,604.10
3,270.00 James Barr Ames Prize Fund, .	3,813.81
47,021.25 Law School Book Fund,	47,021.25
100,000.00 Law School Library Fund,	100,000.00
1,660.32 Scholarship money returned (balance),	1,210.06
	490,890.88

LAWRENCE SCIENTIFIC SCHOOL FUNDS.

40,805.73 Professorship of Engineering, . . .	\$40,805.73
61,536.43 Abbott Lawrence Fund,	61,536.43
50,375.00 James Lawrence "	50,375.00
30,686.85 John B. Barringer "	30,686.85
25,000.00 Arthur Rotch "	25,000.00
5,548.30 George A. Gardner "	5,570.07
10,845.74 Hennen Jennings Scholarship, .	10,417.52
5,018.44 Stuart Wadsworth Wheeler Fund,	5,047.26
	229,488.86

MUSEUM OF COMPARATIVE ZOOLOGY FUNDS.

23,193.04 Museum of Comparative Zoölogy (bal.),	\$29,291.85
50,000.00 Gray Fund for Zoölogical Museum,	50,000.00
297,933.10 Agassiz Memorial Fund, } . . .	297,933.10
7,594.01 Teachers' and Pupils' " } . . .	7,594.01
117,469.34 Permanent Fund,	117,469.34
7,740.66 Humboldt	7,740.66
100,000.00 Henry L. Pierce Fund,	100,000.00
5,485.53 Virginia Barret Gibbs Sch., . .	5,485.69
107,798.29 Sturgis Hooper Fund,	108,708.65
Gifts for a Collection of Mammal Skins (balance),	2,292.65
	726,515.95

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY FUNDS.

47,504.46 Peabody Professor Fund,	\$47,496.03
47,335.10 Peabody Collection "	47,335.10
28,355.56 Peabody Building "	28,355.56
10,059.00 Huntington Frothingham Wol- cott Fund,	10,000.00
\$7,751,126.58	\$183,186.89
. . Amounts carried forward, . . .	

Principal, Aug. 1, 1899.		Principal, July 31, 1900.
\$7,751,136.58	Amounts brought forward, . . .	\$133,186.69 \$7,904,420.46
10,189.02	Henry C. Warren Exploration Fund,	10,253.64
30,153.79	Thaw Fellowship Fund,	30,151.28
11,137.02	Hemenway Fellowship Fund, . .	11,244.87
5,222.00	Robert C. Winthrop Scholarship,	5,260.12 190,096.60

MEDICAL SCHOOL FUNDS.

55,481.26	Medical School (balance),	\$56,788.10
19,192.65	Jackson Medical Fund,	19,192.65
17,129.20	Geo. C. Shattuck "	17,129.20
100,593.99	George Fabyan "	100,872.51
52,900.33	William O. Moseley Fund,	52,900.33
17,780.96	John B. & Buckminster Brown Professorship,	18,591.77
13,547.81	Warren F'd for Anatom'l Museum,	14,067.03
3,480.34	Boylston Fund for Medical Prizes,	3,476.53
3,357.24	Boylston " " " Books,	3,205.33
1,465.28	Medical Library Fund,	1,532.08
2,000.00	Quincy Tufts Medical Fund, . .	2,000.00
25,512.68	Edward M. Barringer "	25,512.68
15,765.11	Mary W. Swett "	15,765.11
20,000.00	Samuel W. Swett "	20,000.00
1,836.08	Samuel E. Fitz "	1,836.08
6,000.00	J. Ingersoll Bowditch "	6,044.93
9,335.94	Dr. Rupper Fund,	9,335.94
32,784.20	Henry Willard Williams Fund,	33,029.15
242,337.01	Calvin Ellis Fund,	270,244.33
	Lucy Ellis "	51,015.06
8,597.53	Edward Austin Fund (Bacteriological Laboratory),	8,989.60
92,276.76	Caroline Brewer Croft Fund, .	92,750.54
	Charles Wilder Fund,	15,256.50
	Cotting Gift,	3,069.90
6,439.05	Surgical Laboratory Fund,	6,819.95
38,750.00	New Subscription Fund (1888), . .	38,750.00
5.82	John Foster income for Medical Students (balance	150.42
5,682.41	D. W. Cheever Scholarship, . .	5,691.51
6,190.37	C. M. Jones "	6,222.63
6,217.10	Isaac Sweetser "	6,250.60
4,211.89	Charles Pratt Strong Scholars'p,	4,303.96
5,151.31	Alfred Hosmer Linder "	5,266.20
5,415.81	Charles B. Porter "	5,462.78
5,076.52	John Thompson Taylor Scholarship,	5,188.03
\$8,632,343.06	Amounts carried forward, . . .	\$926,711.93 \$8,094,517.06

Principal, Aug. 1, 1899.		Principal, July 31, 1900.
\$8,632,848.06	. . Amounts brought forward, . . .	\$926,711.98 \$8,094,517.06
5,246.45	Edward Wigglesworth Scholarship,	5,285.67
5,254.83	Geo. Cheyne Shattuck Memorial Fellowship,	5,269.46
5,219.11	John Ware Memorial Fellowship,	5,232.10
5,518.01	Chas. Eliot Ware memorial Fel- lowship,	5,539.40
5,672.25	William H. Thorndike Prize F'd,	5,930.89
4,644.67	Gifts for Pathological Dep't Library,	3,756.82
842.96	" Departments,	404.48
		958,130.75

DENTAL SCHOOL FUNDS.

28,397.36	Dental School (balance),	\$33,293.06	
25,255.85	Dental School Endowment,	2,255.85	
	Henry C. Warren Endowment F'd,	23,000.00	
16,790.14	Gifts for Building,	18,064.29	76,603.20

OBSERVATORY FUNDS.

	Observatory (balance),	\$2,249.36	
110,293.88	Edward B. Phillips Fund,	110,293.88	
21,000.00	James Hayward "	21,000.00	
34,069.91	David Sears "	34,846.70	
10,699.48	Josiah Quincy "	11,187.35	
2,000.00	Charlotte Harris "	2,000.00	
5,000.00	Thomas G. Appleton Fund, . . .	5,000.00	
13,380.00	Augustus Story "	13,380.00	
50,000.00	Observatory Endowment (1882), . .	50,000.00	
273,557.86	Robert Treat Paine Fund, . . .	273,557.86	
50,000.00	Paine Professorship,	50,000.00	
204,706.71	Uriah A. Boyden Fund,	200,802.57	
45,000.00	Haven Fund,	45,000.00	
94.66	Bruce Gift balance),	94.66	
2,500.00	J. Ingersoll Bowditch Fund, . .	2,500.00	
2,028.70	Draper Memorial (balance), . .	966.16	822,878.54

BUSSEY INSTITUTION FUNDS.

17,627.99	Bussey Institution (balance), . . .	\$24,422.84	
12,250.14	Woodland Hill Fund,	11,618.45	36,041.29

ARNOLD ARBORETUM FUNDS.

158,214.42	James Arnold Fund,	\$158,575.15	
18,500.00	Arnold Arboretum Fund,	29,500.00	
21,424.77	William L. Bradley Fund,	22,183.39	
15,270.65	Arboretum Construction Gifts, . . .	6,459.28	216,717.82
\$9,797,798.86	. . Amounts carried forward,	\$10,204,888.66	

Principal,
Aug. 1, 1890.

Principal, July 31, 1900.

\$9,797,798.86 . . . Amounts brought forward, \$10,304,888.66

OTHER FUNDS FOR SPECIAL PURPOSES.

892,709.18	Bussey Trust (income thereof, $\frac{1}{2}$ to Bussey institution, $\frac{1}{4}$ to Law Sch'l, and $\frac{1}{4}$ to Divinity School),	\$392,710.18	
50,000.00	Bright Legacy ,	50,000.00	
2,007.67	School of Comparative Medicine ,	4,128.38	
45,558.64	Robert Troup Paine Fund ,	46,898.04	
42,000.00	James Savage "	42,000.00	
3,171.50	John Foster "	3,171.50	
29,939.33	Henry Harris "	29,939.33	
2,000.00	John L. Russell "	2,000.00	
77,667.71	Charles L. Hancock Fund ,	76,885.81	
16,453.01	Gray Fund for Engravings,	15,851.77	
32,288.75	John Witt Randall Fund ,	32,786.97	
15,338.45	William M. Prichard Fund ,	15,814.07	
1,264.23	Harvard Memorial Society Fund ,	1,271.87	
5,771.25	Gospel Church "	6,034.41	
1,120.00	Fund of the Class of 1834 ,	1,160.00	
6,644.35	" " " 1844 ,	6,804.35	
509.73	" " " 1851 ,	532.99	
501.93	" " " 1851 , (C. F. Dunbar's Gift),	524.82	
3,725.00	Fund of the Class of 1853 ,	3,725.00	
3,475.32	Free Bed Fund of Class of 1868 ,	3,633.77	
719,091.31	Price Greenleaf Fund ,	719,291.31	
5,385.64	O. W. Doe Scholarship ,	5,397.90	
5,767.15	Lewis and Harriet Hayden Sch. ,	5,807.63	
5,119.16	Anonymous Annuity Fund	5,152.59	
176,575.06	Henry L. Pierce Building Fund ,	183,638.06	
20,028.49	Gift for New Boat House ,	22,786.04	
46,714.62	Stillman Infirmary Gift ,	97,971.98	
16,291.95	Semitic Building Gifts ,	49,748.63	
	Architecture Building Gift ,	120,582.65	
	University Museum Building Gifts ,	100,255.56	
	Gifts for John Simpkins Hall ,	13,260.47	
	Brighton Marsh Fence ,	30,000.00	
8,913.50	Gifts for the Improvement of The Soldier's Field ,		
5,064.11	Gift for Pathological Laboratory (Veterinary School)	5,065.08	
	Gifts for Cuban Teachers ,	60,092.63	
	Gift for Books, Prints, Casts, etc., for Department of Architecture ,	20,116.88	
49,849.10	Bursar's Sundry Accounts ,	27,929.80	
157,572.36	Gains and Losses for General Investments ,	185,458.08	2,388,428.55
<hr/>		<hr/>	
\$11,746,317.36 . . . Amounts carried forward,		\$12,598,317.21	

<u>Principal, Aug. 1, 1899.</u>	<u>Principal, July 31, 1900.</u>
\$11,746,817.86	\$12,593,817.21

**FUNDS IN TRUST FOR PURPOSES NOT
CONNECTED WITH THE COLLEGE.**

16,856.83	Daniel Williams Fund for the conversion of the Indians,	\$16,847.61
4,784.37	Sarah Winslow Fund for the Minister and Teacher at Tyngs- borough, Mass.,	4,783.37
\$11,767,458.56		21,130.98
		\$12,614,448.19

Changes in the Funds during the year ending July 31, 1900.

Total amount of Funds and balances, July 31, 1900,	
as before stated,	\$12,614,448.19
Total amount of Funds and balances, August 1, 1899,	
as before stated,	11,767,458.56
Showing a total increase during the year of	<u>\$846,989.63</u>

Which is made up as follows:—

Gifts forming new Funds or increasing old ones, .	\$359,806.81
Increase of Funds established during the year, . .	1,112.27
Credit balances created,	372,950.20
Gain from change of investments,	33,224.67
Increase more than decrease of Funds and balances,	
which appear both at the beginning and end of	
the year,	146,098.08
	<u>\$918,191.58</u>

Deduct from this amount

Sundry balances used up,	\$39,524.39			
Loss from change of investments, . .	8.10			
Decrease (by excess of expen-				
ditures over income in				
College, Library, and				
University accounts), of				
Stock Account,	\$24,971.16			
Insurance and Guaranty				
Fund,	11,698.35	36,669.51	66,201.90	<u>\$846,989.63</u>

Net increase of Funds and balances as above, . . .	\$553,885.22
Less decrease as above,	66,201.90
Leaving amount of the net increase of the Funds	
and balances, excluding gifts for capital ac-	
count,	<u>\$487,183.32</u>

The following tables are not found, in their present form, in the Treasurer's books. They are intended to exhibit with some detail the resources and the expenditures of each department of the University. The income of every Fund held by the University is given in these tables, and also the sum paid out for the specific object of each and every Fund, in case that sum be either less or more than the actual income of the Fund. If the object to which the income of a Fund is to be applied be a general one, — like salaries, for example, — no separate mention is made in these tables of that appropriation. That particular payment is merged with others of the same kind under the general heading. A balanced summary of these tables will be found on page 96.

TABLE NO. I.
THE UNIVERSITY.
RECEIPTS.

Income of the unappropriated fund heretofore called the

Stock Account,

From special investment, \$1,138.68

Income of the following Funds:—

Insurance and Guaranty, from special investment,	6,458.74
Israel Munson,	718.20
Leonard Jarvis,	769.86
John C. Gray, from special investment,	1,140.00
George B. Dorr, " "	5,288.09
Francis E. Parker, " "	5,190.05
Stanton Blake,	228.00
Charlotte F. Blanchard,	217.56
Joseph Lee, from special investment,	456.00
William F. Weld,	
From general investments,	\$1,920.67
" special "	2,639.88
Henry P. Kidder,	456.00
George Draper,	2,209.68
Isaac Sweetser,	2,139.23
George Baxter Hyde,	228.00
Harvard Ellis,	4,612.89
John W. Carter,	570.00
Theodore Lyman,	456.00
Henry L. Pierce Residuary Bequest (part), .	18,689.00
Andrew Bigelow,	225.72
Gore,	938.04
Samuel D. Bradford,	239.40
Robert C. Billings,	969.00
John Cowdin, from special investment,	1,915.91
John L. Russell	1,065.67
Henry T. Morgan,	3,736.97
Henry Harris, $\frac{1}{2}$ income,	682.61
Seth Turner,	228.00
Amount carried forward,	\$65,476.80

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$65,476.80	
Income of the following funds (<i>continued</i>) :—		
William Perkins,	1,368.00	
Walter Hastings, from special investment, . .	1,369.58	
President's,	2,896.92	
Thomas Cotton,	7.07	
Retiring Allowance,	15,626.21	
Lectures on Political Economy,	428.00	
Ingersoll Lecture,	247.97	
William Belden Noble Lectures,		
Interest,	\$935.16	
Sales,	38.90	974.06
William Hayes Fogg,	2,196.46	
William M. Prichard,	699.41	
John W. and Belinda L. Randall,	239.72	
Parker Fellowships,	2,533.76	
John Thornton Kirkland Fellowship,	495.40	
Harris Fellowship,	493.21	
James Walker Fellowship,	515.60	
Rogers Fellowships,	1,467.55	
Robert Treat Paine Fellowship,	566.08	
John Tyndall Scholarship,	527.32	
Henry Lee Memorial Fellowship,	514.96	
Ozias Goodwin " "	481.08	
Henry Bromfield Rogers Memorial Fellowship,	509.35	
Whiting Fellowships,	978.85	
Francis Hathaway Cummings Scholarship, .	240.63	
Joseph Eveleth Fund (part),	323.40	
William Hilton Scholarships (part),	301.62	
Frank Bolles Memorial,	73.42	
Edward Austin,	19,602.39	
Alexander Wheelock Thayer,	540.50	
Calvin and Lucy Ellis Aid,	2,052.87	
Sumner Prize,	136.85	
George B. Sohler Prize (part),	250.00	
John O. Sargent Prize,	108.39	
James Gordon Bennett Prize,	58.37	
Robert N. Toppan Prize,	158.92	
Ralph Hamilton Shepard Memorial,	263.02	
Ralph H. Shepard,	57.00	
Free Bed Fund of the Class of 1868,	158.45	
Semitic Collection. Gifts,	\$2,970.00	
Interest,	270.16	3,240.16
Gift for Semitic Library,	33.61	\$128,212.86
Amount carried forward,		\$128,212.86

TABLE NO. I, THE UNIVERSITY, CONTINUED.

RECEIPTS.

Amount brought forward,			\$128,212.86
For immediate use.			
Gift for Collections for a Germanic Museum,			
Gift,	\$893.83		
Interest,	37.51	\$930.84	
Gifts for South End House Fellowship,		400.00	1,330.84
Balance remaining after dividing the net income among the Funds,		\$169.16	
Care of the Sarah Winslow Fund,		5.45	
Taxes repaid with costs and interest by City of Cambridge,		3,641.82	
Sale of catalogues, calendars, directories, &c.,		1,164.92	
" grass and sand,		39.40	
" stable,		10.00	
Use of houses by College officers,		1,400.00	
" stable,		112.50	6,548.25
			<u>\$136,066.95</u>

PAYMENTS.

Overseers' Expenses.			
Printing President's Annual Report,	\$1,195.61		
Printing Treasurer's " "	368.36		
Printing other reports,	79.63		
Stationery and postage,	27.14		
Advertising,	257.70		
Auditing Treasurer's accounts,	135.00		
Sundries, . . . . .	.40	\$2,053.84	
Office Expenses.			
President's,			
Clerical services,	\$584.00		
Other expenses,	144.39	\$728.39	
Treasurer's,			
Clerical services,	\$789.00		
Other expenses,	1,220.55	2,009.55	
Bursar's,			
Clerical services,	\$2,900.72		
Other expenses,	4,823.27	7,723.99	
Publication Agent's,			
Clerical services,	\$1,177.71		
Other expenses,	1,906.27	3,083.96	
Supt. of Buildings',		328.66	
Inspector of Grounds and Buildings',		663.89	
Janitor's,		17.08	
Corporation Rooms (fuel, rent, &c.),		2,511.23	17,066.73
Amount carried forward,			\$19,120.56

TABLE NO. I, THE UNIVERSITY, CONTINUED.

PAYMENTS.

Amount brought forward,		\$19,120.56	
Salaries.			
President,			
From the University,	\$6,000.00		
" President's Fund,	2,909.97		
" Thomas Cotton Fund,	7.07	\$8,917.04	
Treasurer,		6,000.00	
Comptroller,		5,000.00	
Bursar,		4,000.00	
Assistant Bursar,		2,000.00	
Corresponding Secretary,		1,550.00	
Recording Secretary,		1,750.00	
Secretary of the Board of Overseers,		200.00	
Publication Agent,		2,000.00	
Clerks, Treasurer's office,		3,150.00	
Bursar's Assistant,		1,700.00	
Superintendent of Buildings,		2,800.00	\$9,067.04
Lectures,			385.00
Memorial Hall and Sanders Theatre.			
Repairs,		\$318.10	
Fuel, lighting, furniture, cleaning, &c.,		550.86	
Insurance,		458.89	1,327.85
General Expenses.			
Repairs and improvements,		\$3,671.29	
Janitors and cleaning,		2,430.83	
Labor,		4,985.42	
Fuel,		1,313.37	
Water,		478.45	
Lighting,		301.50	
Printing,		167.39	
Commencement Programme,		100.80	
Quinquennial Catalogue,		2,472.48	
Annual Catalogue and Calendar,		2,941.64	
Guide Book,		420.57	
Furniture,		50.20	
Advertising,		819.54	
Taxes,		2,193.93	
Insurance,		494.18	
Watchmen,		2,342.00	
Freight, supplies, and sundries,		939.72	
Legal services and expenses,		227.86	
Music, Commencement,		185.00	
Cleaning and care of portraits,		244.68	
Sidewalk assessments,		328.13	
Amounts carried forward,	\$36,108.81	\$59,900.45	

TABLE NO. I, THE UNIVERSITY CONTINUED.

PAYMENTS.

Amounts brought forward,	\$26,108.81	\$59,900.45
Telephone,	165.43	
Electric power,	20.00	
Paris Exposition expenses,	961.14	
Watchman's clock in University Museum,	500.00	
Detective's services and expenses,	156.47	
Travelling expenses,	259.20	
Diplomas,	170.44	
Plank walks,	176.04	
Mercantile agency,	1,465.46	
Receptions,	129.66	
Surveys and plans,	81.50	
Deficit in the School of Veterinary Medicine for 1899-1900,	4,206.96	34,401.11
Sundry payments made from Special Funds and Gifts.		
William Hayes Fogg Fund.		
Collections and expenses,	\$2,808.49	
Salary of Director,	500.00	\$2,808.49
William M. Prichard Fund,		223.79
J. W. and Belinda L. Randall Fund,		200.00
Semitic books,		256.92
Semitic Collection,		4,863.57
Retiring Allowance Fund,		4,250.00
Ingersoll Lecture Fund,		299.45
Frank Bolles Memorial Fund,		58.52
William Belden Noble Fund,		648.12
Edward Austin Fund,		
Loans to students,	\$1,901.00	
Appropriations,	345.00	2,246.00
Ralph Hamilton Shepard Memorial Fund, .		258.33
Calvin and Lucy Ellis Aid Fund,		
Beneficiary,	\$400.00	
Expenses,	55.00	455.00
Lectures on Political Economy Fund,		350.00
Fellowships and Scholarships.		
Austin for Teachers,		\$1,833.32
Austin Teaching,		4,000.00
Francis Hathaway Cummings,		200.00
Ozias Goodwin Memorial,		450.00
Harris,		500.00
John Thornton Kirkland,		550.00
Henry Lee Memorial,		450.00
Morgan,		1,500.00
Amounts carried forward,	\$9,488.32	\$111,219.75

TABLE NO. I, THE UNIVERSITY CONTINUED.

PAYMENTS.

Amounts brought forward,	\$9,483.32	\$111,219.75
Robert Treat Paine,	750.00	
John Parker,	2,800.00	
Rogers,	1,125.00	
Henry Bromfield Rogers Memorial,	675.00	
John Tyndall,	750.00	
James Walker,	500.00	
Whiting,	700.00	
University,	2,875.00	19,658.32
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Prizes.		
George B. Sohier,	\$250.00	
Charles Sumner,	100.00	
Robert N. Toppan,	150.00	500.00
		<hr/>
		\$131,378.07

TABLE NO. II.

THE COLLEGE.

RECEIPTS.

From Term Bills.

Instruction,	\$390,543.35	
Receipts from College dormitories, not included in		
University Houses and Lands,	77,204.04	\$467,747.39

Income of Scholarship Funds.

Abbot,	\$162.56	
Alford (accumulating),	75.10	
Bartlett,	244.64	
Bassett,	258.42	
Bigelow,	573.83	
Samuel A. Borden (accumulating),	87.42	
Bowditch,	5,092.79	
Bright, $\frac{1}{2}$ income of Bright Legacy,	1,140.00	
Browne,	169.08	
Morey Willard Buckminster,	230.23	
Burr,	1,452.63	
Ruluff Sterling Choate,	278.25	
Class of 1802,	363.57	
" 1814,	143.09	
" 1815 (Kirkland),	286.14	
" 1817,	197.86	
" 1828,	156.77	
<hr/>		
Amounts carried forward,	\$10,912.38	\$467,747.39

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward ,	\$10,912.38	\$467,747.39
Income of Scholarship Funds (<i>continued</i>).		
Class of 1835,		213.82
" 1841,		185.73
" 1852 (Dana),		226.23
" 1856, from special investment, \$341.67		
" general "	518.00	854.67
" 1867,		208.57
Crowninshield,		521.94
George and Martha Derby,		254.72
Julius Dexter,		218.10
Orlando W. Doe (part),		100.00
William Samuel Eliot,		248.98
Joseph Eveleth (part),		866.68
Fall River,		94.49
Farrar,		278.11
Richard Augustine Gambrill,		500.42
Charles Haven Goodwin,		318.97
Benjamin D. Greene,		185.36
Price Greenleaf,	3,000.00	
William Hilton (part),		875.00
Ebenezer Rockwood Hoar,		470.82
Levina Hoar, for the town of Lincoln,		279.62
Hodges,		579.71
Hollis,		271.87
Henry B. Humphrey,		478.07
Hennen Jennings,		471.78
George Emerson Lowell,		459.15
William Merrick,		262.39
Morey,		265.67
Lady Mowison,		252.76
Howard Gardner Nichols,		245.00
Lucy Osgood (accumulating),		208.76
Pennoyer. Interest,	\$84.37	
Annuity,	142.65	226.92
Perkins,		187.87
Wendell Phillips,		65.48
Rodger (accumulating),		60.10
Henry Bromfield Rogers,		154.72
Edward Russell,		249.24
Sales,		242.64
Saltonstall,		204.11
Leverett Saltonstall,		281.83
Mary Saltonstall,		312.59
Savage,		300.00
Amounts carried forward,	\$26,145.91	\$467,747.39

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,		\$26,145.91	\$467,747.89
Income of Scholarship Funds (<i>continued</i>).			
Sever,		147.42	
Sewall,		479.48	
Shattuck,		2,193.54	
Slade,		269.54	
Story,		195.16	
Stoughton,		49.75	
Swift,		60.06	
Thayer,		3,460.58	
Gorham Thomas,		184.04	
Toppan,		334.84	
Townsend,		1,180.06	
Walcott,		199.04	
Christopher M. Weld,		369.00	
Jacob Wendell,		234.52	
Whiting,		507.16	35,960.10
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Received for the Warren H. Cudworth Scholarships,		\$600.00	
" " Matthews Scholarships ($\frac{1}{4}$ net rents of Hall),		5,652.57	
" " Ricardo Prize Scholarship,		350.00	6,602.57
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Income of other Beneficiary Funds.			
"Exhibitions." Bequest,	\$286.23		
Interest,	60.78	\$347.01	
Palfrey Exhibition,		89.83	
Robert Keyne,		88.69	
William Brattle,		57.18	
Henry Gibbs,		16.69	
Ephraim Flynt,		16.05	
Thomas Danforth,		37.25	
Anne Mills,		7.84	
Thomas Fitch,		27.95	
Benjamin Wadsworth,		10.08	
John Ellery		14.91	
Henry Flynt,		5.56	
Joseph Sewall,		7.43	
Nathaniel Appleton,		20.85	
Edward Holyoke,		13.41	
Mary Lindall,		36.62	
John Glover (accumulating),		110.58	
Quincy Tufts,		508.67	
Moses Day,		248.47	
Munroe,		480.40	
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Amounts carried forward,		\$2,145.47	\$510,810.06

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$2,145.47	\$510,810.06
Income of other Beneficiary Funds (continued).		
Susan B. Lyman,	138.12	
Samuel Ward,	531.33	
Price Greenleaf Aid,	15,495.21	
Dr. Andrew P. Peabody Memorial,	195.35	
Stuart Wadsworth Wheeler,	228.82	
Scholarship and Beneficiary Money Returned.		
Returned by beneficiaries,	306.85	19,041.15
Income of Prize Funds.		
Ward Nicholas Boylston Prizes for Elocution, .	\$172.23	
James Bowdoin Prizes for Dissertations, . . .	683.04	
Coolidge Debating Prizes,	231.51	
Edward Hopkins Gift for "Deturs."		
From Trustees,	\$213.17	
Interest on unexpended balance,	74.78	287.95
Sales,	47.97	
Philip Washburn,	68.40	1,491.10
Income of Funds for Instruction.		
Alford Professorship,	\$1,265.35	
Boylston "	1,392.17	
Eliot "	985.83	
Eliot " (Jon. Phillips' Gift),	350.00	
Erving "	159.60	
Fisher "	1,641.19	
Asa Gray "	978.17	
Hersey " $\frac{1}{2}$ income of the Fund,	553.14	
Hollis " (Mathematics),	170.86	
Hollis " (Divinity),	1,574.02	
Henry Lee "	617.47	
McLean "	1,963.67	
Perkins "	957.60	
Plummer "	1,140.91	
Pope "	2,394.00	
Professorship of Hygiene.		
From general investments,	\$7,048.88	
" special "	200.00	7,248.88
Rumford "	2,573.71	
Smith "	1,055.18	
Fund for Permanent Tutors,	740.54	
Thos. Lee, for the Hersey Professorship,	991.53	
Thos. Lee, for Reading,	720.34	
Amounts carried forward,	\$29,369.16	\$530,842.31

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$29,869.16	\$530,842.31
Income of Funds for Instruction (continued).		
Class Subscription,	6,851.63	
Henry Flynt,	15.64	
Paul Dudley,	147.65	
Professorship of Engineering,	1,860.75	
Abbott Lawrence,	2,806.04	
James Lawrence,	2,297.10	
John B. Barringer,	1,399.33	
Arthur Rotch,	1,140.00	
Gifts for salaries,	1,000.00	46,887.30
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Income of Jonathan Phillips unrestricted Fund, . .	\$1,436.40	
“ “ John A. Blanchard “ “ . .	47.88	
“ “ Daniel H. Pierce “ “ . .	632.34	
“ “ J. W. P. Abbot Fund (accumulating), .	355.49	
“ “ John E. Thayer “	702.47	
“ “ Fund for Religious Services,	47.15	
“ “ Gurney Fund,	8,801.26	
“ “ Classical Publication Fund of the Class of 1856,	323.99	
“ “ Increase Sumner Wheeler Fund, . .	2,280.00	
“ “ Henry Warren Torrey Fund,		
Interest,	\$459.10	
Sales,	178.02	
Repayment,	19.17	656.29
“ “ Elizabeth Torrey Bequest,	51.35	
“ “ Joseph Lovering Fund for Physical Research,	369.77	
“ “ Cyrus M. Warren Fund,	272.37	
“ “ Chauncey Wright “	43.32	
“ “ George A. Gardner “	252.99	
“ “ Francis James Child Memorial Fund, .	503.70	
“ “ George W. Sawin Fund,	198.91	
“ “ Josiah Stickney Fund,	558.69	
“ “ Unknown Memorial Fund,	4,604.87	22,139.24
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Hemenway Gymnasium.		
For use of lockers,	\$3,865.50	
“ “ by graduates,	20.00	3,885.50
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Jefferson Physical Laboratory.		
Income from Endowment,	\$3,420.00	
Interest on unexpended balance,	88.92	
Insurance,	147.51	3,656.43
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Amount carried forward,	\$607,410.78	

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,		\$607,410.78	
Sanskrit Department.			
Interest on unexpended balance,		\$71.43	
Income of Henry C. Warren Fund ,			
From general investments,	\$2,126.92		
" special "	2,557.75	4,684.67	
Income of Harvard Oriental Series Fund,		684.73	
Sale of publications,		44.01	5,484.84
Botanic Garden and Botanic Museum.			
Income of Botanic Department Fund,		\$1,813.97	
" " Lowell Fund ,		3,017.02	
" " John L. Russell Fund ,		22.80	
Use of house,		700.00	
Sale of material,		750.00	
Gifts for present use,		3,670.00	
" Cases, interest,		45.67	10,019.46
Gray Herbarium.			
Income of Herbarium Fund,		\$928.60	
" " Asa Gray Memorial Fund ,		1,501.94	
" " John L. Russell Fund ,		68.40	
Received from Asa Gray's copyrights,		1,423.95	
Sale of check lists and duplicate books,		17.03	
" publications,		84.44	
" specimens,		19.97	
Gifts for present use,		3,515.00	7,559.33
Classical Department.			
Sales of publications,			539.50
Sundry Gifts.			
For Department of German,		\$550.00	
" " Political Economy,		200.00	
" " Romance Languages,		67.44	
" " Music,		1.17	
" " Architecture,	\$20,000.00		
Interest,	384.15	20,384.15	
" Scandinavian lecture or concert,		230.35	
" Social Questions Library,		250.00	
" Physical research,		250.00	
" Laboratory of Palaeontology,		6.30	
" Course in Music 7,		100.00	
" Deficits of Chamber Concerts,		619.70	
" Present use, unrestricted,		200.00	22,859.11
Amount carried forward,			\$653,873.03

TABLE NO. II, THE COLLEGE, CONTINUED.

RECEIPTS.

Amount brought forward,	\$653.873.02	
Laboratory fees received.		
Chemistry,	\$12,413.68	
Mineralogy,	595.00	
Physics,	3,090.00	
Philosophy,	190.00	
Hygiene,	550.00	
Engineering,	735.00	
Botany,	945.00	
Zoölogy,	875.00	
Geology,	1,002.50	
Mining and Metallurgy,	304.51	20,700.69
Sundries.		
For use of rooms by College Society,	\$1,260.00	
Sale of tickets to Commencement Dinner,	697.00	
“ hymn books,	27.59	
“ publications,	1,409.71	
“ old examination papers,	329.03	
“ regulators, etc.,	75.00	
“ geographical models,	71.40	
Fees for admission and condition examinations, . .	2,783.00	
“ Summer Courses,	\$18,710.17	
Other receipts from Summer Courses,	353.08	19,063.25
For use of camp at Martha's Vineyard,	352.67	
Advances to Engineering Department repaid, . . .	6.00	
Repayments of loans by Scientific School students,	141.46	26,216.11
		<u>\$700,789.82</u>

PAYMENTS.

Paid the incumbents of the following Scholarships.	
Abbot,	\$100.00
Bartlett,	166.66
Bassett,	270.00
Bigelow,	333.32
Bowditch,	4,833.32
Bright,	1,040.00
Browne,	150.00
Morey Willard Buckminster,	200.00
Burr,	1,133.34
Ruluff Sterling Choate,	300.00
Class of 1802,	300.00
“ 1814,	166.66
“ 1815 (Kirkland),	133.34
Amount carried forward	\$9,126.64

TABLE No. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,	\$9,126.64
Paid the incumbents of the following Scholarships (<i>cont'd</i>).	
Class of 1817,	150.00
" 1828,	100.00
" 1835,	150.00
" 1841,	200.00
" 1852 (Dana),	200.00
" 1856,	600.00
" 1867,	200.00
Crowninshield,	333.34
Warren H. Cudworth,	600.00
George and Martha Derby,	333.34
Julius Dexter	100.00
O W Doe,	133.34
William Samuel Eliot,	166.66
Joseph Eveleth,	866.68
Fall River,	66.66
Farrar,	166.66
Richard Augustine Gambrill,	400.00
Charles Haven Goodwin,	300.00
Benjamin D Greene,	150.00
Price Greenleaf,	8,000.00
Hilton,	375.00
Ebenezer Rockwood Hoar,	400.00
Levina Hoar, for the town of Lincoln,	250.00
Hodges,	200.00
Hollis,	200.00
Henry B. Humphrey,	325.00
Hennen Jennings,	400.00
George Emerson Lowell,	373.34
Matthews	4,250.00
William Merrick,	133.33
Morey,	300.00
Lady Mowlson,	200.00
Howard Gardner Nichols,	200.00
Pennoyer,	245.00
Rebecca A. Perkins,	150.00
Wendell Phillips Memorial,	50.00
Henry Bromfield Rogers,	150.00
Edward Russell,	200.00
Sales,	133.32
Saltonstall,	150.00
Leverett Saltonstall,	200.00
Mary Saltonstall,	300.00
Savage,	800.00
Amount carried forward,	\$26,828.31

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,	\$26,828.81	
Paid the incumbents of the following Scholarships (<i>conf'd</i>).		
Sever,	100.00	
Sewall,	400.00	
Shattuck,	2,100.00	
Slade,	250.00	
Story,	100.00	
Thayer,	3,000.00	
Gorham Thomas,	100.00	
Toppam,	300.00	
Townsend,	1,000.00	
Walcott,	66.66	
Whiting,	466.66	
Christopher M. Weld,	300.00	
Jacob Wendell,	200.00	\$35,211.63
Paid other Beneficiaries from the following Funds.		
Exhibitions,	\$347.01	
Palfrey Exhibition,	80.00	
Quincy Tufts,	508.67	
Moses Day,	248.47	
Munroe,	202.65	
Price Greenleaf Aid,	14,982.34	
Dr. Andrew P Peabody Memorial,	208.00	
Stuart Wadsworth Wheeler,	200.00	
Samuel Ward,	25.00	
Scholarship and Beneficiary money returned,	1,805.00	18,107.14
Prizes.		
Boylston Prizes for Elocution,	\$255.00	
Bowdoin Prizes for Dissertations,	1,000.00	
Coolidge Debating Prizes,	200.00	
Sales,	45.00	
"Deturs" from Hopkins Donation,	230.39	1,730.39
Sundry payments made from Special Funds.		
Henry Warren Torrey Fund,	\$834.79	
Cyrus M. Warren Fund,	23.30	
George A. Gardner Fund,	231.22	
The Joseph Lovering Fund for Physical Research,	148.80	
Classical Publication Fund of the Class of 1856,	844.95	
Francis James Child Memorial Fund,	514.88	
Unknown Memorial Fund,	1,398.80	
George W. Sawin Fund,	224.13	
Chauncey Wright Fund,	15.98	
Professorship of Hygiene	2,000.00	
Henry C. Warren Fund,	1,066.38	
Harvard Oriental Series Fund,	700.62	8,003.85
Amount carried forward,		\$63,053.01

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,			\$63,053.01
Jefferson Physical Laboratory.			
Spent on building, &c., from income of Fund . . .	\$49.88		
Laboratory expenses,	\$4,310.82		
Less part paid by the College,	600.00	3,710.82	3,760.70
Botanic Garden and Botanic Museum.			
Salaries, labor, repairs, materials, &c.,	\$12,104.54		
Interest on advances,	664.46		12,769.00
Gray Herbarium.			
Salary, labor, repairs, materials, interest, &c.,			6,850.70
Hemenway Gymnasium.			
Salaries and wages,	\$7,643.00		
Janitors and cleaning,	2,449.44		
Fuel, water, gas, printing, and sundries,	2,325.74		
Repairs and improvements,	349.49		
Apparatus,	750.00		
Insurance,	285.00	\$13,802.67	
Less amount received from other departments, . .	1,894.62		11,908.05
Appleton Chapel.			
Preaching and morning services,	\$3,353.10		
Organist and Choir-master,	2,000.00		
Choir,	1,600.00		
Music and binding,	426.72		
Fuel, gas, cleaning, &c.,	1,382.75		
Furniture,	582.83		
Organ blowing apparatus,	447.52		
Services and wages,	13.20		9,806.12
Summer Schools.			
Salaries,	\$12,378.86		
Clerical services,	400.00		
Supplies, materials, cleaning, &c.,	935.94		
Printing,	268.24		
Advertising,	324.40		
Instruments and apparatus,	41.24		
Stationery and postage,	628.53		
Catalogues,	904.31		
Reception,	222.70		16,104.22
Amount carried forward,			\$124,251.80

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,		\$124,251.80	
Payments from Special Gifts.			
For books for Department of Political Economy, .	\$60.01		
“ “ “ French,	44.25		
“ “ “ Music,	2.67		
“ “ “ Romance Languages,	45.00		
“ “ “ German,	7.41		
“ “ Social Questions Library,	2.17		
“ “ Classical “	378.51		
“ “ Historical “	233.53		
For Prints, casts, &c., for Department of Architecture, .	267.27		
“ Department of Greek,	250.00		
“ Cases for Department of Botany,	510.61		
“ Cataloguing for Department of Botany,	9.60		
“ Apparatus “ “ Political Economy,	60.00		
“ Mathematical publications,	100.00		
“ Scandinavian Concert,	230.35		
“ Laboratory of Palaeontology,	6.80		
“ Deficits of Chamber Concerts,	619.70	2,827.33	
Appropriations for collections, laboratories, &c.			
Physics (Prof. Trowbridge),	\$1,000.00		
Chemistry (Prof. H. B. Hill),	500.00		
Mineralogy (Prof. Wolff),	300.00		
Petrography (Prof. Wolff),	150.00		
Geology (Prof. Davis),	200.00		
Mining and Metallurgy (Asst. Prof. Smyth),	200.00		
Botany (Prof. Goodale),	250.00		
Zoölogy (Prof. Mark),	400.00		
Architecture (Asst. Prof. Warren),	250.00		
Zoölogy, for publications,	400.00		
Psychology (Prof. Münsterberg),	500.00		
Fine Arts and Drawing (Prof. Moore),	350.00		
Anthropology (Prof. F. W. Putnam),	200.00		
Coins and Medals (Curator Storer),	50.00		
Military and Naval Science (Instructor Smith),	75.00		
Engineering, equipment (Prof. Hollis),	2,500.00		
“ expenses (Prof. Hollis),	7,200.00		
Laboratory fees appropriated,	19,965.69		
Fuel and services in Nat. Hist. Laboratories,	1,500.00		
Fuel, services, &c., in Jefferson Ph. Laboratory,	600.00	38,590.69	
Salaries.			
Instruction,	\$359,784.24		
Deans,	4,500.00		
Chairmen of Committees,	1,700.00		
Medical Visitor, Recorders, Secretary, Curators, &c.,	6,533.33		
Examination Proctors,	1,872.00	374,389.57	
Amount carried forward,		\$538,059.44	

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amount brought forward,	\$538,069.44	
Payments for College Buildings not valued in Treasurer's books.		
Ventilation improvements,	\$17,285.21	
Repairs, improvements, &c.,	15,604.06	
Cleaning and care,	19,809.50	
Fuel,	7,362.26	
Water,	1,153.25	
Lighting,	4,591.89	
Insurance,	<u>8,844.78</u>	69,150.95
General Expenses.		
Deans and Chairmen of Committees, clerical and office expenses,	\$11,678.76	
Commission on Admission to N. E. Colleges, . . .	167.33	
Reading examination books,	3,362.50	
Services of proctors,	1,378.69	
" assistants to instructors,	3,684.48	
" undergraduates,	895.51	
" mechanics in department of Physiology and Hygiene,	900.00	
" Head Guide in College grounds,	49.55	
Expenses of Medical Visitor,	180.99	
Attendants in department libraries and laboratories,	2,662.21	
Admission examinations,	2,458.84	
Lawrence Scientific School Scholarships and assistance,	4,050.00	
Electric power,	451.39	
Pews hired in Cambridge churches,	1,785.50	
Commencement Dinner,	608.19	
Printing office, expenses,	\$20,652.40	
Less receipts,	<u>15,335.08</u>	5,317.37
Printing,	1,062.57	
" for Graduate Department,	703.64	
Catalogue, Lawrence Scientific School,	376.40	
Furniture,	2,296.43	
Instruments and apparatus,	219.45	
Stationery and postage,	1,170.92	
Books,	191.88	
Binding,	76.30	
Advertising,	1,296.32	
Watchmen,	1,115.45	
Freight, and sundries,	796.82	
Supplies, tools, and materials,	746.72	
Legal services,	127.43	
Music, Class-Day,	<u>125.00</u>	
Amounts carried forward	\$49,881.14	\$607,210.39

TABLE NO. II, THE COLLEGE, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$49,831.14	\$607,210.89
General Expenses (<i>continued</i>).		
Reception,	52.00	
Use of Grays 18 by English department,	100.00	
Lantern slides,	100.00	
Delegates' Expenses,	11.35	
Services and expenses at Faculty meetings,	65.30	
Expenses on Annals of Mathematics,	781.58	
Telephones,	107.63	
Honorarium for services at fire in Jefferson Physical Laboratory,	50.00	
Police, Commencement Day,	31.00	
Decorating College Buildings,	185.00	
Safe,	75.00	51,290.00
		<u>\$658,500.39</u>

TABLE NO. III.

THE LIBRARY.

RECEIPTS.

Income of the following Funds for the purchase of books.

Subscription for Library (1859),	\$483.95
Nathaniel I. Bowditch,	97.49
Bright, $\frac{1}{4}$ income of the Bright Legacy,	1,140.00
Edwin Conant, $\frac{1}{4}$ income,	316.08
Constantius, $\frac{1}{4}$ income,	593.32
Denny,	243.18
Eliza Farrar,	240.77
Horace A. Haven,	143.59
Francis B. Hayes,	462.89
George Hayward,	241.45
Thomas Hollis,	108.34
Sidney Homer,	98.68
Frederick A. Lane,	241.36
Lowell,	1,143.47
Charles Minot,	2,765.15
Lucy Osgood,	328.18
Mary Osgood,	322.67
Henry L. Pierce,	4,652.29
Francis Sales,	182.76
Stephen Salisbury,	244.42
Sever,	917.60

Amount carried forward, \$14,967.64

TABLE NO. III, THE LIBRARY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$14,967.64	
Income of the following funds, etc. (<i>continued</i>).		
Samuel Shapleigh,	182.04	
George B. Sohler (part),	72.21	
Charles Sumner,	1,713.01	
Kenneth Matheson Taylor,	229.73	
Ichabod Tucker, from special investment,	200.00	
James Walker,	724.81	
Thomas W. Ward,	243.23	
Executors of Robert Waterston,	12.86	
J. Randolph Coolidge. Gift, . . . \$2,000.00		
Interest,	64.04	2,064.04
J. Huntington Wolcott,	463.25	20,872.82
Income of the following Funds for general expenses.		
James Savage Fund ($\frac{1}{2}$ income),	\$1,211.40	
Edwin Conant " $\frac{1}{2}$ "	948.27	
Constantius " $\frac{1}{2}$ "	593.33	
Daniel Treadwell Fund,	543.78	
Daniel Austin "	284.09	
Eben Wright "	4,560.00	
Jarvis "	22.80	
Price Greenleaf "	15,495.21	23,658.88
Fees for use of Library,	\$115.00	
Sale of Scudder catalogues,	28.00	
Sale of duplicate books,	256.13	
Received for books lost,	33.71	
Fines,	298.45	
Gifts for books,	2,516.71	3,248.00
		<u>\$47,779.70</u>

PAYMENTS.

For Books, from	
Subscription Fund (1859),	\$482.73
Bowditch "	76.50
Bright "	1,148.05
Conant "	305.35
Constantius Fund,	664.85
Denny "	228.79
Farrar "	210.01
Haven "	131.43
Hayes "	515.07
Hayward "	261.38
Hollis "	112.53
Homer "	109.65
Lane "	202.28
Lowell "	644.61
Amount carried forward,	\$5,093.23

TABLE NO. III, THE LIBRARY, CONTINUED.

PAYMENTS.

Amount brought forward,	\$5,093.23	
For books, from (<i>continued</i>).		
Minot Fund,	2,527.45	
Lucy Osgood Fund,	328.90	
Mary Osgood "	327.19	
Pierce "	4,990.49	
Sales "	239.26	
Salisbury "	223.57	
Sever "	950.27	
Shapleigh "	162.40	
Sohier "	37.07	
Sumner "	1,710.43	
Taylor "	179.33	
Tucker "	126.36	
Walker "	731.07	
Ward "	239.85	
Waterston "	25.00	
J. Huntington Wolcott Fund,	494.84	
Coolidge Gifts,	1,719.85	
J. Randolph Coolidge Gift,	4,063.40	
Gardner Gift,	24.10	
Lothrop "	80.67	
Ingraham "	5.00	
Storow "	22.10	
Treat "	800.00	
Hammer "	21.78	
Dante Society Gift,	50.70	
Government 6 "	6.50	
Duplicate money,	88.22	
Fines,	233.35	\$25,502.38
Salaries,	\$15,750.00	
Services and wages,	18,136.62	
Repairs and improvements,	548.02	
Ventilation improvements,	97.93	
Janitors and cleaning,	1,163.66	
Fuel,	1,026.88	
Water,	28.33	
Lighting,	1,226.40	
Printing,	1,450.98	
Furniture,	585.11	
Stationery and postage,	568.75	
Binding,	2,140.57	
Electric power,	175.62	
Awnings,	502.50	
Freight, supplies, and sundries,	1,241.85	
Surplus receipts from sales of Scudder Catalogues,	52.25	44,695.47
		<u>\$70,197.85</u>

TABLE NO. IV.
DIVINITY SCHOOL.

RECEIPTS.

Income of the following Funds applicable to Salaries.

Divinity School, balance,	\$1,804.94	
Benjamin Bussey Professorship,	1,713.83	
Parkman Professorship,	730.33	
John Hancock Professorship,	\$278.96	
C. L. Hancock. Interest,	3,492.50	
From special investments,	1,066.19	4,832.65
Winn Professorship of Ecclesiastical History,	2,409.78	
Frothingham Professorship,	1,928.10	
Samuel Dexter,	924.77	
Henry Lienow,	418.84	
Mary P. Townsend,	239.40	
Winthrop Ward,	95.76	
Samuel Hoar,	47.88	
Abraham W. Fuller,	47.88	
Caroline Merriam,	47.88	
Joseph Baker,	359.10	
Thomas Tileston of New York Endowment,	1,824.00	
Henry P. Kidder,	456.00	
Oliver Ames,	775.20	
Abby Crocker Richmond,	45.60	
New Endowment (1879),	3,257.07	
William B. Spooner,	456.00	\$31,915.01

Income of Scholarship and Beneficiary Funds.

Jackson,	\$659.01	
Thomas Cary,	240.04	
George Chapman,	119.93	
Joshua Clapp,	198.54	
J. Henry Kendall,	228.91	
Nancy Kendall,	153.90	
William Pomroy,	47.88	
Abner W. Buttrick,	592.89	
Beneficiary money returned (balance),	197.04	2,488.14

Income of other Funds.

Joshua Clapp,	\$99.32
Hannah C. Andrews,	23.94
Lewis Gould,	41.54
Haven,	228.00
Daniel Austin,	40.58
Adams Ayer,	45.60
John W. Quinby,	89.97
John L. Russell,	45.60
Edwin Conant,	228.00

Amounts carried forward, \$842.55 \$24,353.15

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

RECEIPTS.

Amounts brought forward,	\$842.55	\$24,358.15
Income of other Funds (<i>continued</i>).		
Louisa J. Hall,	28.82	
Rushton Dashwood Burr,	158.81	
Benjamin Bussey Trust ($\frac{1}{4}$ net income for use of this School),	5,692.01	6,717.19
Term Bills.		
Instruction,	\$4,576.95	
Receipts from Divinity Hall,	3,105.00	\$7,681.95
Summer School fees,	810.00	
Gift from Society for Promoting Theological Education,	3,535.71	
Gift for Summer Course expenses,	5.00	
Sale of duplicate books, &c.,	1.15	
" tickets to Alumni Dinner,	45.00	
Fines,	7.55	12,086.36
		<u>\$48,156.70</u>

PAYMENTS.

Salaries for instruction,	\$27,451.71	
Secretary and Librarian,	1,500.00	
Services and wages,	174.99	
Library Assistants,	1,087.09	
Proctors,	50.00	
Labor, repairs, and improvements,	748.39	
Cleaning and care of rooms,	1,407.59	
Fuel,	410.00	
Water,	84.00	
Lighting,	328.10	
Printing,	175.83	
Furniture,	94.18	
Stationery and postage,	301.46	
Books,	1,294.87	
Binding,	39.15	
Insurance,	32.40	
Advertising,	501.36	
Diplomas and sundries,	89.58	
Taxes on Chelsea Real Estate,	87.41	
Alumni dinner,	75.00	
Reception,	13.23	
Proportion of expenses of Gymnasium,	79.98	
New Organ,	1,072.51	
Furnishing students' rooms in Divinity Hall,	1,611.70	
Furnishing Reading-Room from John W. Quinby Fund,	1,623.18	\$40,283.56
Amount carried forward		\$40,283.56

TABLE NO. IV, DIVINITY SCHOOL, CONTINUED.

PAYMENTS.

Amount brought forward,	\$40,283.56	
Paid the incumbents of the following Scholarships:		
Jackson,	\$640.00	
Thomas Cary,	280.00	
George Chapman,	100.00	
Joshua Clapp,	180.00	
Nancy Kendall,	140.00	1,840.00
Paid beneficiaries from the following Funds:		
Abner W. Buttrick,	\$630.00	
William Pomroy,	48.20	678.20
Paid for Books from Louisa J. Hall Fund,		
		2.90
		<u>\$42,304.66</u>

TABLE NO. V.

LAW SCHOOL.

RECEIPTS.

Income of the following Funds.

Law School, balance,	\$4,487.11	
Nathan Dane Professorship,	718.20	
Benjamin Bussey "	1,093.49	
Isaac Royall "	880.35	
Weld "	4,381.77	
Bemis "	2,991.54	
James Barr Ames Prize,	40.81	
Law School Book Fund,	2,144.16	
Law School Library Fund,	4,560.00	
Benjamin Bussey Trust ($\frac{1}{4}$ net income for use of this School),	5,692.01	
Scholarship money returned,	52.76	\$26,442.20
Term Bills, instruction,		90,983.48
Sale of Law School Quinquennial Catalogue,		26.00
		<u><u>\$117,401.68</u></u>

PAYMENTS.

Salaries for instruction,	\$50,500.00
Librarian and Assistants,	5,647.37
Secretary,	975.00
Reader to the Dane Professor,	478.32
Services of proctors,	318.50
Scholarships,	3,760.00
Repairs and improvements,	830.20
Amount carried forward,	<u>\$62,494.39</u>

TABLE NO. V, LAW SCHOOL, CONTINUED.

PAYMENTS.

Amount brought forward,	\$62,494.39	
Janitor, cleaning, &c.,	1,355.81	
Fuel,	756.85	
Water,	73.38	
Lighting,	1,110.19	
Printing,	392.21	
Furniture,	406.44	
Stationery and postage,	812.48	
Books,	11,061.83	
Binding,	1,523.53	
Advertising,	60.00	
Freight, diplomas, and sundries,	630.07	
Proportion of expenses of Gymnasium,	1,814.69	
Insurance,	4.50	
Travelling expenses,	46.60	
Electric power,	50.00	
Legal services,	87.74	
Catalogue,	242.63	
Quinquennial Catalogue,	1,514.61	\$84,437.95

TABLE NO. VI.

MEDICAL SCHOOL.

RECEIPTS.

Income of the following Funds.

Medical School, balance,	\$2,529.93	
Jackson,	875.20	
Warren, for Anatomical Museum,	617.79	
Ward Nicholas Boylston, for Medical Prizes,	158.69	
Ward Nicholas Boylston, " " Books,	153.08	
George C. Shattuck,	781.08	
George Fabyan. Interest,	\$4,587.09	
Gift,	25.00	4,612.09
John B. and Buckminster Brown,	810.81	
Hersey Professorship, $\frac{2}{3}$ income of the Fund,	368.76	
Medical Library,	66.80	
Quincy Tufts,	91.20	
David Williams Cheever Scholarship,	259.10	
Isaac Sweetser Scholarship,	283.50	
O. W. Doe " (part),	100.00	
Joseph Eveleth " "	600.00	
C. M. Jones "	282.26	
Charles Pratt Strong Scholarship,	192.07	
Alfred Hosmer Linder "	234.89	

Amount carried forward, \$13,017.25

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amount brought forward,	\$13,017.25	
Income of the following Funds (<i>continued</i>).		
Lewis and Harriet Hayden Scholarship, . . .	262.98	
Edward Wigglesworth " . . .	239.22	
Charles B. Porter " . . .	246.97	
William Hilton " (part). . . .	315.00	
John Thomson Taylor " . . .	231.51	
George Cheyne Shattuck Memorial Fellowship. . .	239.63	
John Ware " " . . .	237.99	
Charles Eliot Ware " " . . .	251.39	
Edward M. Barringer,	1,163.39	
William H. Thorndike Prize,	258.64	
Henry Harris, $\frac{1}{2}$ income,	682.61	
Mary W. Swett,	718.88	
Samuel W. Swett,	912.00	
Samuel E. Fitz,	83.72	
J. Ingersoll Bowditch,	272.64	
New subscription (1888),	1,767.00	
Surgical Laboratory. Interest,	\$293.62	
Gifts,	600.00	893.62
William O. Moseley,		2,412.24
Dr. Ruppenner,		425.72
Calvin Ellis. From general investments, \$3,270.07		
" special " 6,237.22		9,507.29
Lucy Ellis,		1,451.86
Henry Willard Williams,		1,494.95
Edward Austin (Bacteriological Laboratory), . .		392.07
Caroline Brewer Croft,		4,207.83
Cotting Gift,		40.31
Charles Wilder,		256.50
John Foster, income for Medical Students every second year,		144.60
Gifts for Pathological Department Library,		86.71
		\$42,214.52
Gifts for present use,		1,625.00
Term Bills.		
Instruction,	\$101,958.34	
Graduation fees,	4,050.00	
Matriculation fees,	735.00	
Examination fees,	417.00	
Fees for use of microscopes,	230.00	
In Chemistry, breakage and chemicals,	1,895.49	
In Physiology, material,	253.10	
In Practical Anatomy, material,	1,233.50	
In Operative Surgery, fees,	273.00	
In Embryology, fees,	424.25	111,469.68
Amount carried forward,		\$155,309.20

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

RECEIPTS.

Amount brought forward,	\$155,309.20	
From Dental School, for laboratory instruction,	\$3,900.00	
Repayment of advances for the purchase of microscopes,	2,008.25	
Use of room by Harvard Coöperative Society,	37.50	
“ “ Veterinary School,	75.00	
Sale of settees and fence,	77.00	6,097.75
		<u>\$161,406.95</u>

PAYMENTS.

Boylston Medical Prizes. Prize,	\$150.00	
Advertising,	12.50	\$162.50
Warren Anatomical Museum.		
Expenses and additions to collection,		98.57
J. Ingersoll Bowditch Fund, Physiological apparatus, &c.,		206.98
George Fabyan Fund, wages and expenses,		333.57
Surgical Laboratory Fund, expenses,		512.72
Calvin Ellis Fund, expenses,		4.99
Caroline Brewer Croft Fund, services and expenses,		2,234.05
Sear's Gifts, books for Pathological Department,		274.56
Sundry gifts,		438.48
Boylston Fund for Books, books and binding,		304.99
Faculty Scholarships,	\$960.00	
Edward M. Barringer Scholarship No 1,	\$300.00	
“ “ “ “ “ 2,	120.00	420.00
David Williams Cheever Scholarship,		250.00
O. W. Doe Scholarship,		100.00
Joseph Eveleth Scholarships,		600.00
Lewis and Harriet Hayden Scholarship,		222.50
Hilton Scholarship,		315.00
C. M. Jones Scholarship,		250.00
Alfred Hosmer Linder Scholarship,		120.00
Charles B. Porter “		200.00
Charles Pratt Strong “		100.00
Isaac Sweetser “		250.00
John Thomson Taylor “		120.00
Edward Wigglesworth “		200.00
George Cheyne Shattuck Memorial Fellowship,		225.00
Charles Eliot Ware Memorial Fellowship,		225.00
John Ware Memorial Fellowship,		225.00
		<u>4,782.50</u>
Appropriations.		
Chemistry,	\$1,895.49	
Physiology,	2,425.00	
Anatomy,	3,330.00	
Pathology,	800.00	
Bacteriology,	550.00	
Amounts carried forward,	\$9,000.49	\$9,353.91

TABLE NO. VI, MEDICAL SCHOOL, CONTINUED.

PAYMENTS.

Amounts brought forward,	\$9,000.49	\$9,353.91
Appropriations (continued).		
Obstetrics,	200.00	
Histology and Embryology,	999.25	
Hygiene,	200.00	
Materia Medica — Pharmacology,	700.00	
Clinical Medicine,	425.00	
Surgical Pathology,	381.43	
Clinical and Operative Surgery,	75.00	
Museum,	312.00	
New courses,	1,000.00	13,293.17
Graduates courses, fees repaid to Instructors,	\$1,465.00	
Summer " " " "	3,895.00	5,360.00
Salaries for instruction,		97,900.00
Dental School, for laboratory instruction,		640.00
General Expenses.		
Dean, and Secretary,	\$800.00	
Repairs and improvements,	3,016.09	
Janitor and cleaning,	4,948.40	
Fuel,	1,560.02	
Water,	854.40	
Lighting and gas,	2,569.33	
Printing,	437.27	
Furniture,	379.08	
Instruments and apparatus,	976.01	
Stationery and postage,	853.06	
Advertising and catalogues,	1,800.00	
Insurance,	149.00	
Proctors,	428.00	
Mechanics and laboratory attendants,	8,201.36	
Legal services,	40.20	
Electric power,	1,152.51	
Freight, diplomas, and sundries,	581.79	
Supplies and material,	1,332.23	30,078.75
		\$156,625.83

TABLE No. VII.
DENTAL SCHOOL.

RECEIPTS.

Income of the following Funds.

Dental School, balance,	\$1,394.90	
Dental School Endowment,	102.87	
Henry C. Warren Endowment,	1,048.80	
Gifts for new building. Interest,	\$774.15	
Gift,	500.00	1,274.15
		\$3,720.72
Term bills for instruction,	\$20,437.75	
Fees from Laboratory,	2,006.49	
In Chemistry, breakage and chemicals,	228.92	
Examination fees,	67.62	22,740.78
From Veterinary School, for laboratory instruction,		60.00
From Medical School, " "		640.00
Fees from Infirmary,		5,867.24
Gift for present use,		5.00
Repayment of advances for the purchase of microscopes,		97.00
Sale of sweepings,		90.36
Use of telephone,		5.42
		\$33,226.52

PAYMENTS.

Salaries for instruction,	\$13,662.50	
Medical School, for instruction,	3,900.00	
Curator,	50.00	
Proctors,	155.00	
Repairs and improvements,	231.70	
Janitors and cleaning,	1,144.24	
Fuel,	447.16	
Water,	86.80	
Lighting,	316.50	
Printing,	283.96	
Furniture,	71.93	
Instruments and apparatus,	119.42	
Stationery and postage,	347.50	
Books,	1.90	
Binding,	80.96	
Advertising,	543.37	
Services and wages,	1,023.02	
Supplies, &c.,	3,787.02	
Freight and sundries,	613.69	
Chemical apparatus,	150.00	
Delegates expenses,	50.00	\$27,066.67

TABLE NO. VIII.
MUSEUM OF COMPARATIVE ZOOLOGY.

RECEIPTS.

Income of the following Funds.

Museum of Comparative Zoölogy (balance),	\$1,057.60	
Gray Fund for Zoölogical Museum,	2,280.00	
Agassiz Memorial,	13,585.74	
Teachers and Pupils,	346.29	
Humboldt,	352.99	
Permanent Fund for Museum of Zoölogy,	5,356.59	
Virginia Barret Gibbs Scholarship,	250.16	
Sturgis Hooper,	4,915.36	
Henry L. Pierce,	4,560.00	\$32,704.73
Gift for a Collection of Mammal Skins,	\$2,280.00	
Interest,	12.65	2,292.65
Use of lecture rooms by Radcliffe College,		700.00
		<u>\$35,637.38</u>

PAYMENTS.

Paid on the order of the Faculty of the Museum of Comparative Zoölogy, from the following Funds.

Gray,	\$2,280.00	
Agassiz Memorial, general expenses,	13,585.74	
Teachers and Pupils,	346.29	
Humboldt,	352.99	
Permanent,	5,356.59	
Henry L. Peirce,	218.79	\$22,140.40
Sturgis Hooper, salary,	\$4,000.00	
Virginia Barret Gibbs Scholarship,	250.00	4,250.00
		<u>\$26,390.40</u>

TABLE NO. IX.

PEABODY MUSEUM OF AMERICAN ARCHAEOLOGY
AND ETHNOLOGY.

RECEIPTS.

Income of the following Funds.

Peabody Professor,		
From general investments,	\$1,282.09	
“ special “	1,038.84	\$2,320.93
Peabody Collection,		
From general investments,	\$1,282.09	
“ special “	1,038.84	2,320.93
Amount carried forward,	\$4,641.86	

TABLE NO. IX, PEABODY MUSEUM, CONTINUED.

RECEIPTS.

Amount brought forward,	\$4,641.86	
Income of the following Funds (<i>continued</i>).		
Peabody Building,		
From general investments,	\$768.04	
" special "	622.32	1,390.36
Huntington Frothingham Wolcott,		458.69
Henry C. Warren Exploration,		464.62
Thaw, from general investments,	\$444.51	
" special "	691.52	1,136.03
Hemenway,		507.85
Robert C. Winthrop Scholarship,	238.12	\$8,837.53
Gifts for present use,		775.00
Repayment of salary by the College,		48.15
		<u>\$9,660.68</u>

PAYMENTS.

Paid from the following Funds.

Peabody Professor,	\$2,329.86	
Peabody Collection,	2,320.93	
Peabody Building,	1,390.36	
Huntington Frothingham Wolcott,	517.69	
Henry C. Warren Exploration,	400.00	
Thaw,	1,138.54	
Hemenway,	400.00	
Robert C. Winthrop Scholarship,	200.00	\$8,696.88
From gifts, &c.,		775.00
" amount repaid by the College,		48.15
" advances from general investments,		115.81
		<u>\$9,635.84</u>

TABLE NO. X.

OBSERVATORY.

RECEIPTS.

Income of the following Funds.

Edward B. Phillips,	\$5,029.41
James Hayward,	957.60
Robert Treat Paine,	12,474.24
Paine Professorship of Practical Astronomy,	2,280.00
Uriah A. Boyden,	9,334.64
Augustus Story,	610.13
David Sears,	1,553.59
Josiah Quincy,	487.87

Amount carried forward, \$32,727.48

TABLE NO. X, OBSERVATORY, CONTINUED.

RECEIPTS.

Amount brought forward,	\$32,727.48	
Income of the following Funds (<i>continued</i>).		
James Savage ($\frac{1}{4}$ net income),	403.80	
Charlotte Harris,	91.20	
Thomas G. Appleton,	228.00	
J. Ingersoll Bowditch,	114.00	
Haven,	2,052.00	
New Endowment (1882),	2,280.00	\$37,896.48
Sale of Observatory publications,	\$31.93	
“ lantern slides, &c.,	2.75	
“ grass, &c.,	64.31	98.99
Mrs. Henry Draper, gift for special research (ad- ditional),	\$9,999.96	
Interest on unexpended balance,	92.52	10,092.48
Use of house by College officer,		600.00
Gifts for present use,		690.36
Trustees of Sturgis Fund, on account of printing annals,		580.27
		<u>\$49,958.58</u>

PAYMENTS.

From Uriah A. Boyden Fund, supplies, apparatus, services, &c.,	\$13,238.78	
“ Draper Memorial, supplies, apparatus, services, &c.,	8,555.02	
Salaries,	\$13,400.00	
Services and wages,	7,112.18	
Repairs and improvements on buildings and grounds,	846.77	
Cleaning and care of Observatory,	533.22	
Labor,	1,686.15	
Fuel,	261.45	
Water,	52.42	
Lighting,	25.89	
Printing,	1,628.35	
Furniture,	169.65	
Instruments and apparatus, including repairs on same,	540.30	
Stationery, postage, and telegraphing,	497.05	
Books,	490.85	
Binding,	302.91	
Supplies and materials,	990.32	
Freight, chemicals, and sundries,	364.88	
Use of house,	90.00	
Electric power,	71.87	
Concrete walks,	137.00	
Type,	224.79	
Interest on advances,	9.11	29,435.16
		<u>\$51,228.96</u>

TABLE No. XI.
BUSSEY INSTITUTION.

RECEIPTS.		
Interest on unexpended balance,	\$808.84	
Bussey Trust (¼ net income),	11,884.01	
Woodland Hill Fund,	544.40	
Fees for instruction,	1,630.00	
Sale of wood, hay, and sundries,	126.90	
Horticultural Department, prizes, sale of flowers, plants, &c.,	1,987.89	
Board of horses, cattle, &c.,	4,526.80	
Use of house by College officer,	600.00	<u>\$21,608.84</u>
PAYMENTS.		
Salaries,	\$7,050.00	
Services and wages,	2,641.15	
Repairs and improvements,	262 92	
Fuel,	505.00	
Gas,	59.63	
Water,	16.00	
Printing,	1.40	
Books,	234.59	
Binding,	84.50	
Advertising,	317.20	
Insurance,	45.00	
Horticultural Department, expenses,	2,099.12	
Grain, farming tools, &c.,	1,448.83	
Sundries,	44.15	<u>\$14,808.99</u>

TABLE No. XII.
ARNOLD ARBORETUM.

RECEIPTS.		
Income of James Arnold Fund,	\$6,853.83	
" William L. Bradley Fund.		
Interest,	\$976.98	
Gift,	<u>400.00</u>	1,376.98
" Arnold Arboretum Fund,		946.25
Gifts for construction account. Interest,		270.19
Interest on deposit,		15.74
Sale of grass and materials,		1,383.30
Gifts for present use,		<u>2,500.00</u>
		<u>\$13,346.29</u>
PAYMENTS.		
William L. Bradley Fund,	\$618.36	
Salary of Director and Assistant,	3,500.00	
Expenses of Arboretum, services, labor, &c.,	16,688.81	
Specimens and expenses for Herbarium and Museum,	591.87	<u>\$21,899.04</u>

TABLE No. XIII.

SCHOOL OF VETERINARY MEDICINE.

RECEIPTS.

Term Bills.		
Instruction,	\$3,370.00	
Graduation fees,	80.00	
Fees for use of microscopes,	16.00	\$3,416.00
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Fees from Hospital and Forge,	\$13,196.35	
Interest on deposit with New England Trust Co.,	11.95	
Gifts for Charity Hospital,	467.00	
Subscriptions to Hospital,	680.00	
Fees from Free Clinic,	244.00	
Gift for Pathological Laboratory. Interest,	100.97	14,700.37
<hr/>		
		<u>\$18,116.37</u>

PAYMENTS.

Salaries for instruction,	\$6,590.00	
Dental School, "	60.00	
Clerk,	350.00	
Services and wages,	5,362.16	
Proctors,	16.00	
Scholarships,	200.00	
Repairs and improvements,	136.34	
Fuel,	310.28	
Water,	126.90	
Lighting,	259.95	
Printing,	202.10	
Furniture,	4.13	
Instruments and apparatus,	142.78	
Stationery, postage, telephone, &c.,	488.09	
Advertising,	99.20	
Taxes,	266.01	
Insurance,	120.00	
Hay, grain, supplies, &c.,	4,339.39	
Freight, diplomas, and sundries,	298.13	
Interest on advances,	1,220.30	
Rent,	1,480.00	
Paid from gift for Pathological Laboratory,	100.00	
Use of rooms at Medical School,	75.00	
Use of horse ambulance,	75.50	\$32,322.36
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TABLE No. XIV.
MISCELLANEOUS FUNDS.

Bussey Trust.

Receipts.

Net income from Real Estate, \$26,768.03

Payments.

Annuities,	\$4,000.00	
One-half of the remaining income to Bussey Institution, . . .	11,384.01	
One-quarter " " Divinity School, . .	5,692.01	
" " " " Law School, . . .	5,692.01	\$26,768.03

Price Greenleaf Fund.

Receipts.

Income of Fund, \$33,990.42

Payments.

Scholarships,	\$3,000.00	
Beneficiary money transferred to College account, . . .	15,495.21	
Balance of income for Library expenses,	15,495.21	\$33,990.42

Gray Fund for Engravings.

Receipts.

Income of Fund, \$750.26

Payments.

Salary of Curator,	\$250.00	
Expenses and additions to collection,	1,101.50	\$1,351.50

Woodland Hill Fund.

Receipts.

Income of Fund, \$551.40

Payments.

Taxes,	\$631.69	
Plan,	7.00	
Bussey Institution, income transferred,	544.40	\$1,183.09

TABLE NO. XIV, MISCELLANEOUS FUNDS, CONTINUED.

James Arnold Fund.*Receipts.*

Income of Fund,	\$7,214.56
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Payments.

19/20 income carried to Arnold Arboretum ,	\$6,853.83
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Construction Accounts.*Receipts.*

J. W. and Belinda L. Randall , sale,	\$83.20	
Henry L. Pierce , interest,	7,063.00	
Stillman Infirmary . Gift,	\$50,000.00	
Interest,	2,759.36	52,759.36
Gifts for Phillips Brooks House . Gift,	\$50.00	
Interest,	55.81	105.81
Gifts for New Boat House . Gifts,	\$11,145.00	
Interest,	480.95	
Insurance,	16,089.75	27,715.70
Gifts for the Improvement of The Soldier's Field ,		
Interest,	\$48.59	
Repayment,	390.08	438.67
Launch Frank Thomson , insurance,	5,625.00	
Gift for Architecture Building . Gift,	\$115,000.00	
Interest,	3,829.77	
Income of Architecture Building Endowment,	4,577.42	123,407.19
Gifts for University Museum . Gifts,	\$100,000.00	
Interest,	255.56	100,255.56
Gift for Semitic Building . Gift,	\$50,000.00	
Interest,	1,246.96	51,246.96
Gifts for John Simpkins Hall . Gifts,	\$15,000.00	
Interest,	242.58	15,242.58
		\$383,893.03

*Payments.*For **Randall Hall**.

From balance of Fund,	\$21,243.99	
" advances from General Investments,	22,875.71	\$44,119.70
" Stillman Infirmary ,	1,502.00	
" Phillips Brooks House ,	20,559.85	
" Improvement of The Soldier's Field,	9,852.17	
" Launch Frank Thomson ,	5,625.00	
" New Boat House,	24,958.15	
" Architecture Building,	3,207.02	
" Semitic Building,	1,498.83	
" John Simpkins Hall ,	1,982.11	\$112,804.33

TABLE NO. XIV, MISCELLANEOUS FUNDS, CONTINUED.

Sundry Accounts.*Receipts.*

School of Comparative Medicine, income,	\$150.71	
Gospel Church Fund (accumulating), income, . .	263.16	
Robert Troup Paine Fund (accumulating),		
Income from special investment,	1,339.40	
O. W. Doe Scholarship Fund, income (part), . . .	45.60	
Harvard Memorial Society Fund, income,	57.64	
Anonymous Fund, income,	233.43	
Metropolitan Park Commission, for land taken in Brigh-		
ton on the bank of Charles River,	30,000.00	
Gifts for Cuban Teachers,	70,016.06	
Gains and Losses for General Investments,		
Gains on sale of United States 5% bonds, \$4,986.85		
" " Chicago, Burlington &		
Quincy R. R. 7% bonds,	22,898.87	27,885.72
Calvin Ellis Fund, gain from change of special invest-		
ments,		1,138.95
Scholarship of the Class of 1856, gain from change		
of special investments,		4,000.00
Price Greenleaf Fund, gain from change of special		
investments,		200.00
Samuel Ward Fund, gain from change of special		
investments (500 years' lease of Ward's Island), .		14,300.00
Bussey Trust, Reversionary interest in real estate in		
Dedham, entered at a nominal valuation of . . .		1.00
Advances from General Investments to		
Botanic Department,	\$2,260.21	
Peabody Museum of American Archae-		
ology and Ethnology,	115.81	
Henry Warren Torrey Fund,	110.62	
Francis James Child Memorial		
Fund,	10.21	
Randall Hall construction,	22,875.71	25,372.56
Advances to Randall Hall, from Randall Hall Asso-		
ciation,		600.00
School of Veterinary Medicine, from University Account		
to provide for the deficit of 1899-1900,		4,206.96
College Expenses, transferred from Gifts for Depart-		
ment of Political Economy,		200.00
James Barr Ames Prize Fund, transferred from		
Scholarship Money Returned (Law School), . .		503.00
Subscriptions for Sanskrit Department, transferred from		
Harvard Oriental Series Fund,		267.64
Henry C. Warren Endowment Fund (Dental School),		
transferred from Dental School Endowment, . .		23,000.00
Amount carried forward,		\$203,781.83

TABLE NO. XIV, MISCELLANEOUS FUNDS, CONTINUED.

<i>Receipts.</i>	
Amount brought forward,	\$203,781.83
Gifts for Semitic Collections, transferred from Semitic Building Gifts,	16,291.95
Gifts for Semitic Library, transferred from Gifts for Semitic Collections,	1,749.61
Gift for Architecture Building, transferred from Architecture Building Endowment Fund (income), . .	4,959.90
John Foster Income for Medical Students, transferred from John Foster Fund (income), . .	144.60
Peabody Museum of American Archaeology and Ethnology, transferred from College Expenses, . . .	48.15
	<hr/> \$226,976.04
<i>Payments.</i>	
Gurney Fund, annuities,	\$1,000.00
Anonymous Fund, annuity,	200.00
Alexander Wheelock Thayer Fund, annuity, . .	360.00
Harvard Memorial Society Fund, services,	50.00
Gifts for Cuban Teachers, expenses,	9,923.43
Bursar's Sundry Accounts,	21,919.80
Charles L. Hancock Bequest, repayments and legal expenses,	781.90
Calvin Ellis Fund, loss from change of special investment,	8.10
Advances from General Investments, repaid.	
Charles Haven Goodwin Scholarship, \$5.46	
Department of Engineering, 6.00	
Gray Herbarium (part), 1,055.77	
J. Ingersoll Bowditch Fund, 20.73	
Observatory, 182.28	1,270.24
Gifts for Department of Political Economy, transferred to College Expenses,	200.00
Scholarship Money Returned (Law School), transferred to James Barr Ames Prize Fund,	503.00
Harvard Oriental Series Fund, transferred to Subscriptions for Sanskrit Department,	267.64
Dental School Endowment, transferred to Henry C. Warren Endowment Fund (Dental School), . .	23,000.00
Semitic Building Gifts, transferred to Gifts for Semitic Collections,	16,291.95
Gifts for Semitic Collections, transferred to Gifts for Semitic Library,	1,749.61
Architecture Building Endowment Fund, income transferred to Gift for Architecture Building,	4,959.90
John Foster Fund, income transferred to John Foster Income for Medical Students,	144.60
College Expenses, transferred to Peabody Museum of American Archaeology and Ethnology,	48.15
	<hr/> \$82,677.82

GENERAL SUMMARY OF THE TABLES.

Table.	Receipts.	Payments.
I. University,	\$126,086.95	\$131,378.07
II. College,	700,789.82	658,500.39
III. Library,	47,779.70	70,197.85
IV. Divinity School,	43,156.70	42,304.66
V. Law School,	117,401.68	84,437.95
VI. Medical School,	161,406.95	156,625.83
VII. Dental School,	33,226.52	27,066.67
VIII. Museum of Comparative Zoölogy,	35,697.38	26,390.40
IX. Peabody Museum of American Archae- ology and Ethnology,	9,660.68	9,635.84
X. Observatory,	49,958.58	51,228.96
XI. Bussey Institution,	21,603.84	14,808.99
XII. Arnold Arboretum,	13,346.29	21,399.04
XIII. School of Veterinary Medicine,	18,116.27	22,322.26
Bussey Trust,	26,768.03	26,768.03
Price Greenleaf Fund,	33,990.42	33,990.42
Gray Fund for Engravings,	750.26	1,351.50
Woodland Hill Fund,	551.40	1,183.09
Daniel Williams Fund,	745.88	755.10
XIV. { Sarah Winslow Fund,	218.15	219.15
Class Funds,	495.15	249.00
John Witt Randall Fund,	1,472.38	974.16
James Arnold Fund,	7,214.56	6,853.83
Construction Accounts,	383,893.03	112,804.33
Sundry Accounts,	226,976.04	82,677.82
	<hr/>	<hr/>
	\$2,071,806.66	\$1,584,123.34
	1,584,123.34	
	<hr/>	
Balance,	\$487,183.32	

Which is the net increase of the Funds and balances, excluding gifts for capital account, as also shown on page 57. This increase consists of money received, and not yet expended, with the accumulated interest thereon, for certain buildings and for the fence on the Brighton Marsh, which are now under construction; of unexpended gifts for special purposes and of the net increase of sundry Funds and balances devoted to special purposes, and not available for the general expenses of the University.

Certificate of the Committees of the Corporation and Overseers of Harvard College, for examining the Books and Accounts of the Treasurer, entered in the Journal kept by him.

The committees appointed by the Corporation and Overseers of Harvard College to examine the books and accounts of the Treasurer for the year ending July 31, 1900, have, with the assistance of an expert chosen by them, examined and audited the Cash book covering the period from August 1, 1899, to July 31, 1900, inclusive, and have seen that all the bonds, notes, mortgages, certificates of stock, and other evidences of property, which were on hand at the beginning of said year, or have been received by him during said year, are now in his possession, or are fully accounted for by entries made therein; they have also noticed all payments, both of principal and interest, indorsed on any of said bonds or notes, and have seen that the amounts so indorsed have been duly credited to the College.

They have in like manner satisfied themselves that all the entries for moneys expended by the Treasurer, or charged in his books to the College, are well vouched; such of them as are not supported by counter entries being proved by regular vouchers and receipts.

They have also seen that all the entries for said year are duly transferred to the Ledger, and that the accounts there are rightly cast, and the balances carried forward correctly to new accounts.

(Signed,)

HENRY P. WALCOTT,	}	<i>Committee on the part of the Corporation.</i>
SAMUEL HOAR,		

EDWARD W. HOOPER,	}	<i>Committee on the part of the Board of Overseers.</i>
F. L. HIGGINSON,		
MOSES WILLIAMS,		
ALFRED BOWDITCH,		
ROBERT H. GARDINER,		

Boston, January 4, 1901.









**This book is under no circumstances to be
taken from the Building**

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